

Purchase Orders – PO Tab

Purchase Orders Tab: The Purchase Orders application is used to create, view, and modify purchase orders. You can enter a purchase order from scratch or create one from a purchase requisition. You can also enter or view general information about a purchase order in this application.

Tab Customizations:

The following changes were made to the pull-down menus:

- Renamed Exit MAXIMO to Exit FEM
- Hid on Help menu, Visit Us On the Web.

The following changes were made to the Tool Bar:

- Replaced Insert w/ Autonumber with Insert toolbutton
- Added BOM (Bill of Material) (PO Extra 1)

The following items were added:

- Requester/Phone, User Type, Solicitation/Contract # , Directorate, Warranty?, CLIN, Line Number

The following items were hidden:

- Pretax Total, Total Tax, Currency, Total Base 2 Cost, Payment on Receipt?, Pay Tax to Vendor, Start (Date), End (Date), Buyer Company

The following items were renamed:

- Company to Name, Company (Ship to) to Name, Company (Bill to) to Name

FEM Settings:

The following fields have been made read-only:

- Modified By
- (Modified) Date

The following fields have default settings:

- Modified By (sysuser)
- Date (Modified Date) (sysdate)
- Warranty (Y)

The following Value List (and supported field) have been created:

- USERTYPE for User Type field

The following changes were made to the Toolbar:

- Added BOM button to copy a Work Order's planned materials list to the Purchase Order.

The following Hyperlinks to the launched Applications have been created:

- ZFI Query (PB1) launches D035K Query Cus App (carries PONUM or Item #)
- D035K (PB3) launches the D035K Issue Custom Application (carries Document #)

The following changes were made to the Overview dialog box:

- PO # (cKey) Description(c1), Requestor/Phone(c2), Vendor(c3), Order Date(c4), Vendor Date(c5), Total Cost(c6), Status(c7)

Program Customizations:

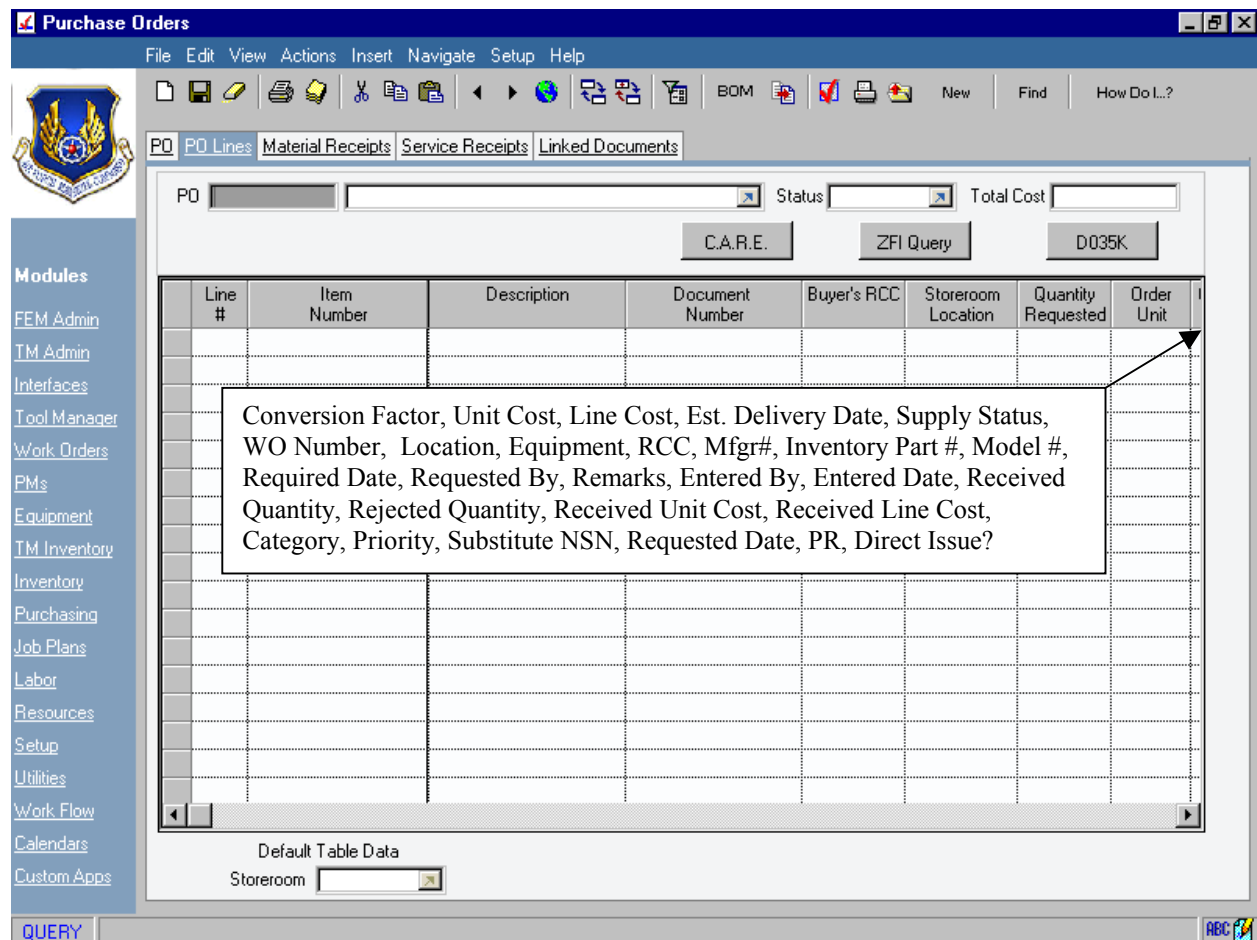
The following Trigger and functions was created/modified:

PO_T Trigger:

- When a PO is approved, this Trigger will create and assign a Document Number to each POLINE item.

- Adds a vendor to the appropriate inventory record if an item is purchased from that vendor and that vendor is not currently in the INVVENDOR table for that item when a purchase is made to the Alternate Vendor table. Add the vendor (from the PO) to the INVVENDOR table for each item in POLINE if the vendor does not exist in the INVVENDOR table for that item when the PO is 'APPR'.
- When a duplicate PO is made (the default PO.STATUS is not equal to 'APPR') the (duplicate) Document Number column (PL2) is nulled out so that it doesn't have the same document number as it's predecessor. When the STATUS = 'APPR', the document numbers are assigned to the POLINE records.

Purchase Orders – PO Lines Tab



PO Lines Tab: Use the PO Lines tab to enter line items on a PO. You can enter line items manually, copy them from a requisition, or create them from an RFQ (Request for Quotation). FEM also displays summary information from the Material Receipts tab or Service Receipts tab on this tab. If you are entering a series of items, you may want to fill in some of the Default Table Data fields for fields with consistent entries to speed up data entry.

Tab Customizations:

The following have been renamed:

- Debit GL Account to RCC, Manufacturer to Mfg #, Model to Inventory Part #, Vendor Date to Est. Delivery Date, Work Order to Work Order Number, Received to Received Quantity, Rejected to Rejected Quantity, Catalog # to Model

The following have been renamed:

- Item to Item Number, Storeroom to Storeroom Location, Quantity to Quantity Requested

The following fields have been added:

- Transaction Part Number, Document Number, Serial Number, Priority, Substitute NSN, Supply Status, Requested Date

The following fields have been hidden:

- The entire default table fields (WO, Storeroom, RCC, Equipment, Requested By), Tax (1 thru 5), Line Cost 2, Agreement PO, Agreement Type, Credit GL Account, Prorated Cost, Tax Code (1 thru 5), Issue on Receipt?, Receipts Complete?, Inspection Required?, Supervisor

FEM Settings:

The following columns have been made read-only:

- WO Op
- Enter By/Date

The following Value List (and supported field) has been created:

- POVALS for Priority field

The following columns have default settings:

- Entered By (username)
- Entered Date (sysdate)

Program Customizations:

The following Trigger and functions were created/modified:

POLINE_T Trigger:

- Checks the value of POLINE.ISSUE and if Y then changes to it to N, when item is a Tool.
- The tool work order number (POLINE.PL9) is set to 'TOOL' and buyer's code (POLINE.GLCREDITACCT) to 'CREDIT' when a line is inserted for a tools purchase order (where PO.PO5 = 'TOOL').
- Before a delete in POLINE, if the Document Number (POLINE.PL2) is not null, the matching record is deleted from DOCXREF.
- Before insert or update to POLINE, if the Document Number (POLINE.PL2) is not null then insert POLINE.DOCNUM, POLINE.POLINENUM, POLINE.PONUM values into DOCXREF.
- Updates INVENTORY.IL3 (Is-Item-on-order flag) when inserting, using POLINE_TR_STMT statement trigger on deletion.

POLINE_TR_STMT Trigger:

- This statement-level trigger uses the TRIGGER_UTILITIES package to update the INVENTORY.IL3 field (the 'IS ON ORDER' flag) whenever a record is deleted from the POLINE table.

PO_T Trigger:

- When a PO is approved, this Trigger will create and assign a Document Number to each POLINE item.

MAXCUST.DLL was modified to include the following:

- “NonGSEIssue.cpp” was created to:
 - Allow only GSE POs to have Direct Issues = ‘Y’
 - GSE POs have User Type (PO5) = ‘GSE’
- “CopyPOLINEStoD035KISS.cpp” was created to:
 - Will take any highlighted grid rows on the POLINE screen and make D035KISS entries for each when the D035K button is pushed.
 - Requires a DLLTRANS record to work.
 - Calls Cp Field to perform the copy
- “CpFields.cpp” was created to:
 - Copies highlighted rows to a buffer then insert them into the D035KISS table
- “PurchaseOrder.cpp” was created to:
 - Default the To Bin to RECEIVING if one is not entered on the Material Receipts tab for Tools PO.
- “UpdateVendor.cpp” was created to:
 - Update the Purchases Orders Estimated Delivery date with the Latest Estimated delivery date for the Purchase Order lines items tab.
- “WPMTtoPOLINEDialog.cpp” was created to:
 - Display the copy Work Plan Material to PO dialog box when the user presses the “BOM” toolbar button.
 - Allow the user to select planned material to be added to a Purchase order.

Purchase Orders - Material Receipts Tab

The screenshot displays the "Purchase Orders" software interface. At the top is a menu bar with options like File, Edit, View, Actions, Insert, Navigate, Setup, and Help. Below the menu is a toolbar containing various icons for file operations and navigation. A sidebar on the left lists modules such as FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PM's, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps.

The main workspace shows the "PO Lines" tab selected. It includes input fields for PO number, Status, Receipts, and a button labeled "DOCXREF". Below these is a large table with columns: Line #, Item Number, Description, Storeroom Location, Bin, Received Quantity, Rejected Quantity, and Reject Code. An arrow points from the "Reject Code" column header to a callout box. The callout box contains the following text:

Unit Cost, Line Cost, Work Order Number, Equipment, Location, RCC, Requested By, Substitute NSN, Packing Slip, Document Number, Received By, Received Date, Transaction Date, Manufacturer Lot Number, Shelf Life (Days), Expiration Date, Remark, Transaction Part Number

At the bottom of the window, there are two sections: "Default Table Data" which includes fields for Received By, Received Date, Packing Slip, Bin, and Lot; and "Total Material Costs" which includes fields for Ordered and Received quantities.

Material Receipts Tab: Use this tab to enter information about items received on an approved PO. You can copy all the PO line items to the Material Receipts tab's table window if the entire order has been received, or you can enter partial receipts. You can also record receipt of the materials ordered on the PO and note any discrepancies between what was ordered and what was received, and/or what was rejected.

Each time you record an item receipt, FEM creates an inventory transaction for that item. FEM increases the balance of the item at its primary location by the quantity of the receipt and decreases the quantity on order by the quantity received.

If you report an actual cost (in the Unit Cost field on the Material Receipts tab) that is different from the cost value listed in the Standard Cost field on the Inventory Control tab, FEM automatically updates the Average Cost field and Last Cost field in Inventory.

Once you close the PO, the fields on the Material Receipts tab become read-only (including Invoice # and cost fields).

Tab Customizations:

The following have been renamed:

- Debit GL Account to RCC, Manufacturer to Mfgr #, Model to Inventory Part Number, Item to Item Number, Quantity to Quantity Received, Work Order to Work Order Number, Qty Rejected to Rejected or Cancelled Qty, To Lot to Lot, Manufacturer Lot to Manufacturer Lot Number

The following fields have been added:

- Transaction Part Number, Document Number, Serial Number, Substitute NSN

The following fields have been hidden:

- Tax (1 thru 5), Line Cost 2, Agreement PO, Agreement Type, Credit GL Account, Prorated Cost, Tax Code (1 thru 5), Prorated?, Receipt Status, Status Changed By, Changed Date, Issue on Receipt?, Loaded Cost

FEM Settings:

The following Hyperlinks to the launched Applications have been created.

- DOCXREF (PB1) launches to the PO/Document # Cross Reference Custom Application

The following FEM Variable is used:

- FILLTOOLREQUESTS – If set to “Y”, automatically fills the oldest matching Tool Request for the received tool if the Tool PO is not linked to a Tool Request.

Program Customizations:

- The MATRECTRANS_T database trigger was created/modified to perform the following actions:
- If a Tool or Inventory Item is on order the trigger updates the Is On Order flag = ‘Y’.
- If the PO Line Item is linked to a Tool Request line Item, the act of receiving material will automatically update the Transfer In Quantity of the Tool Request Line Item that the PO Line item is linked to.
- If the PO Line Item is not linked to a Tool Request line item, the act of receiving material will automatically update the Transfer In Quantity of the oldest Tool Request Line Item that corresponds to the tool being received.
- Inserts a record into the INVTRANS table when a tool is received. For tools received, inserts into INVTRANS only upon receipt of those tools where the MATRECTRANS. UNITCOST differs from INVENTORY.LASTCOST.
- If inserting, the INVENTORY.IL3 (Is On Order) field is set to 'N' if the sum of the POLINE.ORDERQTY <= the sum of the POLINE.RECEIVEDQTY for a particular ITEMNUM in a particular storeroom for a POLINE.PONUM whose status is in ('APPR', 'HOLD', 'WCANCEL'). If the To Bin is null, set it “RECEIVING”.
- When a Tool has been received through MATRECTRANS, INVENTORY.LASTCOST and ITEM.IN23 (Last Receipt Cost) and BULKUTIL.BULKUTIL01 are updated.

MATRECTRANS_TR_STMT Trigger:

This statement level trigger is called by MATRECTRANS_T to update the Last Cost on the Tool Item record.

MAXCUST.DLL was modified to include:

- “PurchaseOrder.cpp” was created to:
 - Defaults the To Bin to RECEIVING if one is not entered on the Material Receipts tab for Tools PO.

Purchase Orders - Service Receipts Tab

[illegible]

Service Receipts Tab: The Service Receipts tab lists information about services received on an approved PO. Use this tab to record any services received against an approved purchase order. You can copy the entire PO line items to the Service Receipts tab table window if all services have been received, or you can enter partial receipts.

Tab Customizations:

The following have been renamed:

- Qty Rejected to Reject Quantity, Cost Rejected to Reject Cost

The following field has been added:

- Serial Number

The following fields have been hidden:

- Tax (1 thru 5), Line Cost 2, Credit GL Account, Prorate Cost, Tax Code (1 thru 5), Loaded Cost

FEM Settings:

None.

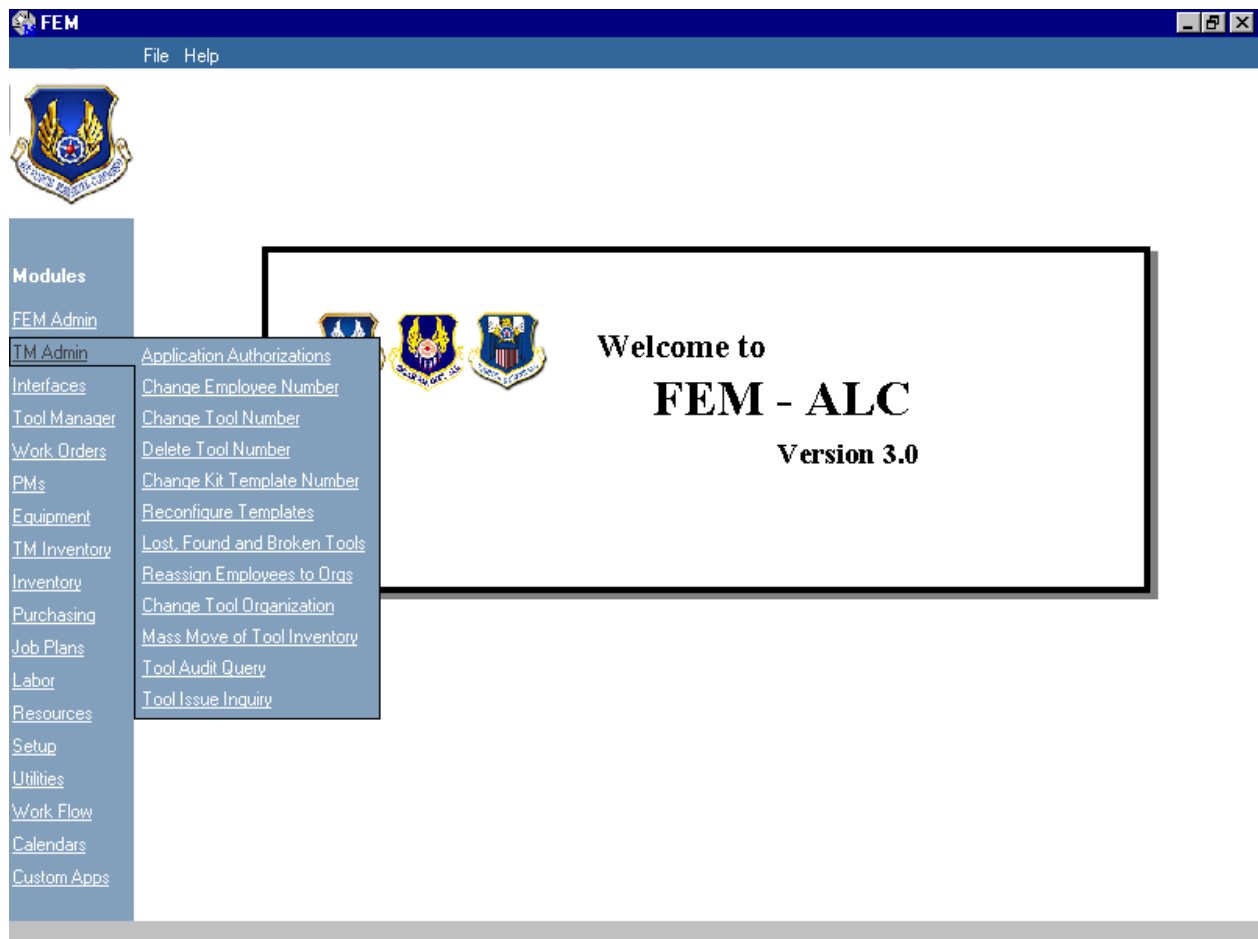
Program Customizations:

None.

Module 16

Tool Administration

Tool Administration



The administrative-type functions for Tool Management have been grouped into a separate administration module called TM Admin. There are nine applications within the TM Admin Module:

Application Authorizations. This application provides a means of granting access to employees to particular fields and/or push buttons and to particular functions in different applications.

Change Employee Number. This application allows the user to globally change an employee's identification number and update all tool transactions.

Change Tool Number. This application allows the user to globally change a tool number and update all tool transactions to reference the new tool number.

Delete Tool Number. This application allows the user to delete a tool number from one or all toolrooms.

Change Kit Template Number. This application allows the user to globally change the identification number of a Kit Template and update all instances of the old Kit Template number.

Reconfigure Templates. This application allows the user to change the template number assigned to selected Tool Kits.

Lost, Found and Broken Tools. The Lost, Found, and Broken Tools application was developed to support the tracking of Lost, Found, Stolen, and Broken tool data. This is a read-only application that allows the user to query the organization, employee, and cost information pertaining to tools that have been lost, stolen, found, or broken. All records visible in this application will be written from the Tool Check Out and Check In application during the check in process and from the Return Found Tool application when lost or stolen tools are returned.

Reassign Employees to Organizations. This application allows the user to change employees from one organization code to another. This application is designed to support reorganizations.

Change Tool Organization. This application allows the user to globally change an existing Tool Organization Code to a new Organization Code.

Mass Move of Tool Inventory. This application allows the user to mass move tools from one toolroom to another. This application is designed to support toolroom reorganizations.

Tool Audit Query. This application was created to provide the user with a single application for requesting information on a tool's transaction history and for producing tool audit reports.

Tool Issue Inquiry. This application allows the user to access current tool check out information and to filter the display of this information in a variety of ways.

Application Authorizations – Main Tab

[illegible]

Main Tab: This application provides a means of granting special access to selected functions on applications. The applications and functions that can be authorized are:

- Tool Kits: Change a Kit's Status, Generate a Tool Request, Empty a Kit, Remove Template, and Delete a Kit.
- Tool Kit Templates: Change a Template's Status, Generate a Tool Request, Duplicate a Template, and Update a Kit.
- Employee-to-Employee Transfer: Access to the 'Select All' button.
- Mass Move of Tool Inventory: Access to the 'Select All' button.
- Tool Category ID Maintenance: Access to each mass update indicator.
- Tool Check Out and Check In: Access to the Grid Actions for Modify, Update Kit, and Replacement functions. Access to Log Book mode. Capability to Override Delinquency, Calibration Due, and Inspection Due rules.

Access to fields and buttons only requires input in the Application Name, Function, and Disable? columns.

Calibration and Inspection Overrides do not use the Disable column. If applicable, entries can be made in the Tool Number, For Employee, and Expiration Date fields.

Delinquency overrides do not use the Disable? column. If applicable, entries can be made in the Tool Number, For Employee, and Expiration Date fields.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Application Authorizations.
- Hid Visit us on the Web on Help menu

FEM Settings:

The following Hyperlinks were created:

- Employee # field displays a selection list from the Tool Employee ID Management application.
- Organization field displays a selection list from the Organizations application.

The following DLL Validations were created:

- Validate Employee # against the LABOR table.
- Auto-populate Employee Name from Employee # and make it read-only after query.
- Auto-populate Organization from Employee #.
- Auto-populate Changed By with current user when a record is saved.
- Auto-populate Changed Date with current date when a record is saved.

The following changes were made to the Overview dialog box:

- Record Key (cKey) renamed to Employee #, Description (c1) to Employee Name.

The following fields were set to Read Only:

- Changed By and Changed Date.

The following fields have default values:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL “ApplicationRestriction.cpp” was created to:

- Display and manipulate the Authorizations grid.
- Display a selection list for the Application Name column.
- Display a selection list for the Function column based on the application selected.
- Display a selection list of For Employee #s from the Tool Employee ID Management application.
- Update the APPGRID table with data from the grid when a record is saved.

DELETE_EMPLOYEE database package procedure was developed to:

- Delete an Employee’s Application Authorization record once that Employee’s Departure Date has been reached.
- The DELETE_EMPLOYEE package is executed as a nightly database job.

APPAUTH_T database trigger was modified to:

- Delete corresponding records from the APPGRID table when an Application Authorizations record is deleted.

Change Employee Number – Main Tab

Change Employee Number

File Edit View Actions Insert Navigate Setup Help

Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Record Key

Old Employee #

New Employee # Changed By Changed Date

Remarks

QUERY ABC

Main Tab: This application allows the user to change an employee's number and update all tool transactions. This application is designed primarily to support the assignment of a new temporary employee number to a temporary employee.

This application only applies to changing employee numbers on those records that have a value of EMP (Employee) in the Labor Type field on the Tool Employee ID Management application screen. The application will update the employee number in all active and historical records. The updating of employee number data elements does not include those elements populated with the USERID.

Note: It may take several minutes to save a record because historical records are being updated when the Employee Number Change record is saved.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Change Employee Number.
- Hid on Insert menu, New Record; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Return, Return with Selection, and New Toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Old Employee # displays a selection list from the Tool Employee ID Management application.

The following DLL Validations were created:

- Set Remarks as Required.
- Set New Employee # as Required and Read Only on Query.
- Validate Old Employee # against LABOR.LABORCODE.
- Autopopulate on Field Old Employee Name where LABORCODE = Old Employee #.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Old Employee # (c6), Name (c3), New Employee (c2), Remarks (c1), Changed By (c4), Changed Date (c5).

The following fields were set to Read Only:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL "ChangeBadgeNumber.cpp" was created to:

- Validate that the New Employee # does not already exist prior to processing the record. If it exists, display an error message and do not allow the record to be saved.
- Update the Tool Employee's Number with the new number in the following tables when a record is saved using the Change Employee Number application:

LABOR, ITEM, TOOLCRIB, ISSUGRID, MATUSETRANS, MATRECTRANS, MASSBADG, and MAXUSERGROUPS.

The MASSBADG_T database trigger was modified to:

- Update the Tool Employee's Number with the new number in the following tables when a record is saved using the Change Employee Number application:

EMPQUALS, TOOLKITS, LFDTOOLS, APPAUTH, and APPGRID.

Change Tool Number – Main Tab

Main Tab: This application allows the user to change a tool number and update all tool transactions to reference the new tool number. When saved, this application's record becomes a transaction record providing an audit describing when the tool number was changed and who changed it. Attendants are able to search on both the New Tool Number and Old Tool Number (one change cycle only) in the Tool Check Out and Check In application to assist them in locating checked out tools where the tool number has changed.

Note: Tool numbers can be changed to align them with existing FEM PMEL and IPE Equipment numbers. However, a tool number that is already being tracked as equipment must first be changed by the FEM Equipment Number Change application.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Change Tool Number.

- Hid on Insert menu New Record; Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return and Return with Selection and New Toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Old Tool Number displays a selection list from the Master Tool Inventory application.

The following DLL Validations were created:

- Validate the Old Tool Number against ITEM.ITEMNUM.
- Set New Tool Number as Required and Read Only on Query.
- Set Remarks as Required and Read Only on Query.
- Autopopulate Tool (Description) where ITEM.ITEMNUM = Old Tool Number.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Old Tool Number (c6), Description (c3), New Tool Number (c2), Changed By (c4), Changed Date (c5), Remarks (c1).

The following fields were set to non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL “ChangeUniqueToolNumber.cpp” was created to:

- Provide a warning if the tool is currently checked out and give the user the option to continue.
- Not allow consolidation of two tool numbers if the New Tool Number already exists and the Old Tool Number has a balance greater than zero.
- Not allow Kit tool numbers to be changed.
- Not allow a tool number that has a corresponding PMEL Equipment Number to be changed.

The MASSTOOL_T database trigger was modified to:

- Not allow a PMEL Tool Number to be changed.
- Delete the Tool from the ITEM, INVENTORY, INVBALANCES, and INVVENDOR tables if the balance of the old Tool Number is zero.
- Insert a 'TOOLNUMCHG' Inventory Transaction Record to document the Tool Number Change.
- Change the Tool Number in the following tables: ALTITEM, AUDTGRID, BADGTRAN, CATFAVORITE, CATQUALS, D035KISS, D035KHIS, D035KQUE, EQUIPMENT, FOUND, INVENTORY, INVBALANCES, INVOICELINE, INVRESERVE, INVTRANS, ISSUGRID, ITEM, ITEMSPEC, ITEMSTRUCT, JOBMATERIAL, JPASSETSLINK, KITLINES, KITTEMPL, LFDTOOLS, LOCOPER, MASSDUPE, MATRECTRANS, MATUSETRANS, MRLINE, POLINE, QUOTATIONLINE, REORDER, REORDERPAD, RFQLINE, RFREJECT, SPAREPART, SPCLGRID, SQNTLRPT, TKLINES, TOOLAUDT, TOOLCAL, TOOLCATS, TOOLCBAL, TOOLCOST, TOOLCRIB, TOOLGRID, TOOLINSP, TOOLKITS, TOOLQUAL, TOOLREPR, TOOLSETS, SETGRID, WOSCHEDACTIVITY, WPMATERIAL
- Place the Old Tool Number in a hidden field (ISSUGRID4) in the ISSUGRID table to enable the user to search on the Old Tool Number.
- Place the Old Tool Number in a hidden field (KITLINES4) in the KITLINES table (Tool Kit Template lines) when the tool is in a template.
- Place the Old Tool Number in a hidden field (TKLINES1) in the TKLINES table (Tool Kit lines) when the tool is in a kit.

Delete Tool Application

The screenshot shows the 'Delete Tool Number' application window. The interface includes a menu bar with options: File, Edit, View, Actions, Insert, Navigate, Setup, and Help. Below the menu is a toolbar with various icons for file operations and navigation. On the left side, there is a sidebar with a 'Modules' section containing a list of links: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The main content area is titled 'Main' and contains a form with the following fields: Record Key, Remarks, Tool Number, Tool Room, Change By, and Change Date. The bottom status bar displays 'QUERY' and 'ABC'.

Main Tab. This application is used to delete tools from a specific tool room or from the entire system. The user selects the tool to be deleted, selects a tool room if the tool is only to be deleted from a specific tool room, and enters any remarks. When the record is saved the system will automatically delete the tool from the system except for the tool's transaction history (MATUSETANS and MATRECTRANS tables). The system will also record the User ID .of the person that deleted the tool and the date and time the tool was deleted.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Delete Tool Application.
- On Help menu: Hid Visit us on the Web and options, MRO.com, MRO-Online.

The following changes were made to the Toolbar:

- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list of tool numbers from the Master Tool Inventory application.
- Tool Room displays a selection list of Tool Rooms from the Locations application.

The following DLL Validations were created:

- Validate the Tool Number against Tool Numbers in the ITEM table.
- Validate the Tool Room against Rooms in the LOCATIONS table.
- Autopopulate Tool Number's Description from the ITEM table.

The following changes were made to the Overview dialog box:

- Tool Number (c2), Tool Room (c4), Changed By (c5), Changed Date (c6), Remarks (c1).

The following fields were set to non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By defaults to the current User's ID.
- Changed Date defaults to the current system date and time.

Program Customizations:

MAXCUST.DLL modifications:

- DeleteToolDialog.CPP was created to enforce the following business rules for determining when a Tool can be deleted and to provide appropriate error messages:
 - Do not allow a tool with a balance greater than zero to be deleted (WORN and BROKEN bin quantities are not to be considered).
 - Do not allow a unique, checked out from a tool room to be deleted from that tool room.
 - Do not allow a non-unique, checked out tool to be deleted from the entire system (can be deleted from single tool room if in more than one).
 - Do not allow a Category type tool to be deleted if there are any tools within the selected tool room(s) that are linked to it.
 - Do not allow a tool in a Kit to be deleted (can be deleted from a specific tool room if any kits that contain the tool are not owned by that tool room).
 - Do not allow a tool in a Template to be deleted (can be deleted from a specific tool room if any templates that contain the tool are not owned by that tool room).
 - Do not allow a tool in a Set to be deleted (can be deleted from a specific tool room if the tool is not included in any Tool sets assigned to that tool room).
 - Do not allow a tool on open TRs, RFQs ,or POs to be deleted (can be deleted from a specific tool room if the tool is not the stocking or requesting tool room in any TRs, RFQs, or POs against the tool room)
 - Do not allow a Kit to be deleted using this application. (use Tool Kits instead)

Database Modifications:

- DELTOOL_T database trigger was modified to perform the following actions where a record is saved:
 - If the tool is only to be deleted from one tool room, and exists in other tool rooms, delete tool from the following tables: INVENTORY, INVBALANCES, and INVRESERVE.
 - If the tool is to be deleted from all tool rooms, or only exists in one tool room, delete the tool from the following tables: ITEM, INVENTORY, INVBALANCES, INVRESERVE, INVVENDOR, INVTRANS, TOOLCAL, TOOLINSP, TOOLEXTRA, TOOLCBAL, TOOLCOST, TOOLQUAL, TOOLREPR, LFDTOOLS, FOUND, BULKUTIL, BULKREPAIR
 - If the tool is a Category also delete the tool from the following tables if the tool is being deleted from all tool rooms or is only in the tool room selected: TOOLCATS, CATQUALS

Change Kit Template Number – Main Tab

Change Kit Template Number

File Edit View Actions Insert Navigate Setup Help

Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

Old Template Number

New Template Number

Remarks

Changed By Changed Date

QUERY

ABC

Main Tab. This application allows the user to change the identification number of a Kit Template and update all instances of the old Kit Template number. When saved, this application's record becomes a transaction record providing an audit describing when the kit template number was changed and who changed it.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Change Kit Template Number.
- Hid on Edit menu, Delete Record; Insert menu, New Record; on Help menu, Visit us on the Web and options, MRO.com, MRO-Online.
- On Help menu, changed About... to About MAXIMO.

The following changes were made to the Toolbar:

- Hid New Toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Old Template Number displays a selection list from the Tool Kit Template application.

The following DLL Validations were created:

- Validate the Old Template Number against KITTEMPL.KITID and set as Read Only on Query.
- Set New Template Number as Required and Read Only on Query.
- Set Remarks as Required and Read Only on Query.
- Autopopulate Old Template Number (Description) where KITTEMPL.KITID = Old Template Number.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Old Template Number (c2), Description (c3), New Template Number (c4), Changed By (c5), Changed Date (c6), Remarks (c1).

The following fields were set to non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

The following database trigger was modified:

- CHGTEMP_T: modified to update the Kit Template number in the Tool Kit Template table (KITTEMPL), Tool Kit Template Line Item table (KITLINES), Tool Kits table (TOOLKITS), and the Tool Request table (PR).

Reconfigure Templates

[illegible]

Main Tab: This application can be used to restructure Tool Kits and Template relationships. The application is used in conjunction with the Duplicate Template function to split Tool Kits currently assigned to a single Template to two or more new Template Numbers with identical content. After the split is complete the new templates can be modified to meet requirements and the associated Kit will be updated via the nightly database job.

User enters the Old Template ID and the New Template ID that he wants assigned to Existing Kits. The grid will display all Kits currently assigned to the Old Template ID. The User would then use the mouse to select the kits to be updated. Once all desired kits are selected, the user will press the Save button to change the Template ID on the selected Kits to the New Template ID.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.

- Renamed Exit MAXIMO to Exit FEM, appCustApp to Restructure Template Application.
- On Help menu: Hid Visit us on the Web and options, MRO.com, MRO-Online.

The following changes were made to the Toolbar:

- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Old Template ID displays a selection list of template numbers from the Tool Kit Template application.
- New Template ID displays a selection list of template numbers from the Tool Kit Template application.

The following DLL Validations were created:

- Validate the Old Template ID against template numbers in the KITTEMPL table.
- Validate the New Template ID against template numbers in the KITTEMPL table.
- Autopopulate Old Template ID's Description from the KITTEMPL table.
- Autopopulate New Template ID's Description from the KITTEMPL table.

The following changes were made to the Overview dialog box:

- Old Template ID (c2), New Template ID (c4), Changed By (c5), Changed Date (c6), Remarks (c1).

The following fields were set to non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By defaults to the current User's ID.
- Changed Date defaults to the current system date and time.

Program Customizations:

The following changes were made to MAXCUST.DLL:

UpdateTemplateDialog.CPP was created to:

- Display the grid of Kit currently assigned to Old Template ID.
- Allow the user to select kits to be updated.
- Change the Template Number on selected Kits when the Save button is pushed.

Lost, Found and Broken Tools – Main Tab

Lost, Found and Broken Tools

File Edit View Actions Navigate Setup Help

Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

Tool Information

Tool Number Kit ID

Category ID Control #

Employee # Status

Organization Toolroom

Quantity Cost Total Cost Repair Cost

Remarks Changed Date

QUERY

Main Tab. This application was developed to support the tracking of Lost, Found, Stolen, and Broken tool data. This is a read-only application that allows the user to query the organization, employee, and cost information pertaining to tools that have been lost, stolen, found, or broken. All data records visible in this application will be written from the Tool Check Out and Check In application during the check in process, from the Return Found Tool application when lost or stolen tools are returned, and from the Tool Repair application when a tool is repaired.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Lost Found Broken Tools.
- Hid on File menu, Save; on Edit menu, Delete/Undelete Row and Delete Record; on Insert menu, all options; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return, Return with Selection, Insert Record, Insert Record with AutoNumber, New, Save Record, and Print WO toolbar buttons.

FEM Settings:

The following Value List (and supporting field) was added:

- REASON for Status field.

The following DLL Validation records were created:

- All fields were set to Read Only on Query.

The following changes were made to the Overview dialog box:

- Key (cKey), Organization (c4), Employee # (c5), Name (c6), Tool Number (c2), Description (c3), Category ID (c14), Description (c15), Status (c7), Toolroom (c12), Quantity (c8), Cost (c9), Total Cost (c11), Repair Cost (c10), Changed Date (c13), Remarks (c1).

The following fields are non-editable:

- Changed Date.

The following Application Settings were established:

- Order By Tool Number.
- Application restricted to displaying only those lost tools not reported as found.

Program Customizations:

The FOUND_T Database trigger was modified to:

- Create a Found record in the Lost, Found, and Broken table when a Lost or Stolen tool is found.
- Update the original Lost or Stolen record in the Lost, Found, and Broken table to indicate the tool is found (LFDTOOLS2 = 'Y').

Two Custom Reports were developed to support the Lost Found, and Broken application.

- Detailed Billing Report (DETLBILL). This report prompts for Month and Year, Condition of Tools (Lost, Stolen, Broken, or All) and Organization. The report will print a detailed listing of Tools that match the selected conditions and Organizations within the month specified. The report lists tools by employee with cost totals by employee and organization.
- Summary Billing Report (SUMMBILL). This report prompts for Ending Month and Tool Condition. The report prints a cost summary by Employee within Organizations for the current fiscal year up to Ending Month entered at prompt. Report lists costs for Lost/Stolen and Repaired/Broken tools.

Reassign Employees to Organizations

Reassign Employees to Orgs

File Edit View Actions Insert Navigate Setup Help

Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

From Organization Changed By

To Organization Changed Date

Remarks

Both From Organization and To Organization are required to have grid Display.

Employee Number	Name

Select All Execute

QUERY

Main Tab. This application allows the user to update employee records to indicate a change of assignment from one organization code to another. The table is used to view and select the employees to be moved from one organization code to another. The user can select any or all of the employees listed by highlighting the desired rows within the grid. The Select All button will automatically highlight all of the rows in the grid. The system will update all selected employee records with the new organization code when the user clicks on the Execute button. All of the selected employees' appropriate database table records will be updated to reflect them being assigned to the new To Organization value.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Mass Change Organization Code.
- Hid on Insert menu, New Record; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Return, Return with Selection, and New toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- From Organization displays a selection list from the Organizations application.
- To Organization displays a selection list from the Organizations application.

The following DLL Validations were created:

- Set Remarks to Required and Read Only on Query.
- Set From Organization to Read Only on Query.
- Set To Organization to Read Only on Query.

The following changes were made to the Overview dialog box:

- Record Key (cKey), From Organization (c3), To Organization (c2), Remarks (c1), Changed By (c4), Changed Date (c5).

The following fields are non-editable:

- Changed By and Changed Date.

The following Field Defaults were built:

- Changed By and Changed Date

Program Customizations:

MAXCUST.DLL “MassChangeDialog.cpp” was created to:

- Create and display Employee Numbers and Names assigned to the From Organization in the Employee grid.
- Highlight all rows in the grid when the Select All button is pressed.
- Enable user to select / de-select rows in the grid.
- Re-assign all selected employees to new organization when the Execute button is pressed by updating the Employee’s Organization in the LABOR and ISSUGRID tables. **Note:** The LFDTOOSL (Lost, Found, Broken) table will not be updated with the new Organization because the records in that table are a history of conditions when the tool transaction occurred.
- Insert records into the TOOLRPTS (Tool Reports) table for Employees re-assigned so they can be printed on the transaction report and automatically execute the report.
- Create a Field Audit Record to document each employee re-assigned.
- One Custom Report was developed to support the Mass Change Organization Codes application:
 - Mass Change Organization Codes Transactions Report (MASSDEPT). This report prints Employee Numbers that were transferred between Organizations. This report is executed automatically.

Change Tool Organization

The screenshot shows the 'Change Tool Organization' application window. The title bar reads 'Change Tool Organization'. The menu bar includes File, Edit, View, Actions, Insert, Navigate, Setup, and Help. The toolbar contains icons for file operations (New, Open, Save, Print, Copy, Paste, Find, etc.) and navigation (Back, Forward, Home, etc.). The sidebar on the left lists various modules: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The main area is titled 'Main' and contains a 'Details' section with the following fields:

- Record Key:
- Remarks:
- Old Organization:
- New Organization:
- Changed By:
- Changed Date:

The 'QUERY' button is located at the bottom left of the window.

Main Tab. This application allows the user to change the Tool Organization Code and update all instances of the old Tool Organization Code throughout the system. When saved, this application's record becomes a transaction record providing an audit describing when the Tool Organization Code was changed and who changed it.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Change Tool Organization.
- On Help menu, hid Visit us on the Web and options, MRO.com, MRO-Online.

The following changes were made to the Toolbar:

- Hid New Toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Old Organization displays a selection list from the Tool Organizations application.

The following DLL Validations were created:

- Validate the Old Organization against COMPANIES.COMPANY.
- Set New Template Number as Required and Read Only on Query.
- Autopopulate Old Organization (Description) where COMPANIES.COMPANY = Old Organization.

The following changes were made to the Overview dialog box:

- Old Organization (c2), New Organization (c4), Changed By (c5), Changed Date (c6), Remarks (c1).

The following fields were set to non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

The following database trigger was modified:

- CHGTLOGR_T: modified to update the Tool Organization in the following tables: BADGGRID, BULKREPR, BULKUTIL, COMPANIES, FOUND, ISSUELMT, KITLINES, KITTEMPL, LABOR, LFDTOOLS, LOCATIONS, PR, TOOLCAL, TOOLCRIB, TOOLKITS, TOOLREPR, TOOLRPTS, TOOLSETS, VALUelist.

Mass Move of Tool Inventory

[illegible]

Main Tab. This application allows the user to mass move tools from one toolroom to another, particularly during toolroom reorganizations. The Select Tools to Transfer table will be used to select the tools to be moved from one toolroom to another. The system will automatically update the quantities of all selected tool records when the Execute button is clicked. If the tool already exists in the To Toolroom the quantity in the Default Bin will be updated.

Note: This application is intended for a direct move of tool inventories. Indirect tool transfers (those requiring a receipt at the destination toolroom) should be accomplished using the Transfer Out and Transfer In applications.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Mass Move of Tool Inventory.

- Hid on Insert menu, New Record; Navigate menu, all Return options; and on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return, Return with Selection, and New toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- From Toolroom displays a selection list from the Operating Locations application.
- To Toolroom displays a selection list from the Operating Locations application.
- Master Tool Inventory button (pushbutton1) launches to the Master Tool Inventory application.

The following DLL Validations were created:

- Validate From Toolroom against Operating Locations, and set it to Required and Read Only on Query.
- Validate To Toolroom against Operating Locations, and set it to Required and Read Only on Query.
- Set Remarks to Read Only on Query.
- Set Tool Type to Read Only on Query.

The following fields have Default Values:

- Set on Site, the From Toolroom defaults based on the user group login.
- Changed By defaults to current system user; Changed Date defaults to the current date.

The following Value List (and supporting field) was created:

- TOOLTYPE for Tool Type field.

The following changes were made to the Overview dialog box:

- Record Key (cKey), From Toolroom (c6), To Toolroom (c2), Tool Type (c3), Changed By (c4), Changed Date (c5), Remarks (c1).

The following fields are non-editable:

- Changed By and Changed Date.

Other Validations:

- Access to the Select All push button is set in the Application Authorizations application.
- FEM Variable MASSSTOR_BIN was created to control the defaulting of the 'To Bin'. If DEFAULT use Tool's default bin as 'To Bin' for the Mass Move of Tool Inventory application. If RECEIVING use RECEIVING as the 'To Bin.'

Program Customizations:

MAXCUST.DLL was modified to:

- “Userlogin.cpp” was created to:
 - Display a User Name / Password Entry Dialog Box
 - Validate the User ID and Password combination against User IDs created with Signature Security.
- “MassMoveDialog.cpp” was created to:
 - Create and display Select Tools to Transfer grid.
 - Display a dialog box to enable the user to select a specific tool number to be moved.
 - Display the Description of the tool selected.
 - Enable the user to select the Bin to be transferred from.
 - Display the available quantity in the selected Bin.
 - Enable the user to enter the Quantity to be transferred.
 - Transfer the selected Tools when the Execute button is pressed by:
 - Creating the To Bin number if it does not exist. If the From Bin is not BROKEN, REPAIR, WORN, or WARRANTY the To Bin will be created as RECEIVING.
 - Creating the tool record in the INVENTORY table if it does not exist in the To Toolroom.
 - Creating an “INSERTITEM” Inventory Transaction record to document the tool’s creation.
 - Transferring Inventory balances to the To Bin and deducting them from the From Bin.
 - Creating a ‘MASSTRAN’ Material Use Transaction record to document the transfer.
 - Updating the location of unique tools in the ITEM table.
 - Displaying warning messages and instructions when the Select All Button is pressed.
 - Inserting records into the TOOLRPTS (Tool Reports) table for tools transferred so they can be printed on the transaction report and automatically executing the (TOOLMOVE) report.

The MASSSTOR_T database trigger was modified to:

- Only execute if the Select All option is selected on the Mass Move screen and the Save button is pressed.
- Create the To Bin number if it does not exist. If the From Bin is not BROKEN, REPAIR, WORN, or WARRANTY the To Bin will be created as RECEIVING.
- Create the tool record in the INVENTORY table if it does not exist in the To Toolroom.
- Create an “INSERTITEM” Inventory Transaction record to document the tool’s creation.
- Transfer Inventory balances to the To Bin and deduct them from the From Bin.
- Create a ‘MASSTRAN’ Material Use Transaction record to document the transfer.
- Insert records into the TOOLRPTS (Tool Reports) table for each tool transferred.
- Update the location of unique tools in the ITEM table.

Two Custom Reports were developed to support the Mass Move of tool Inventory application.

- Mass Move of Tool Inventory Report (MASSTLMV). This report is to be used when the Select all option is used. It is manually executed from the File Menu using the run Reports option and prints a listing of all tools transferred.
- Mass Move of Tool Inventory Report (TOOLMOVE). This report is identical to the MASSTLMV report except that it is executed automatically by the MAXCUST.DLL code. It is used when the Select All option is not used and only selected tools are transferred.

Tool Audit Query – Main Tab

Tool Audit Query

File Edit View Actions Navigate Setup Help

Execute Query How Do I...?

Main

Record Key

Select By

Employee # Toolroom Action Begin Date
 Organization Category ID Document End Date
 Attendant # Tool Number Project

Query Results

Category ID	Tool Number	Description	Employee #	Transaction Type	Organization

Quantity, Condition, To Toolroom, From Toolroom, Attendant, Remarks

QUERY ABC

Main Tab. This custom application was created to provide the user with a single application for requesting tool audit information and for producing tool audit reports. This is a read only application and can only be used for generating queries to extract tool transaction data from multiple tables. Upon defining any combination of filter criteria and selecting the Execute Query toolbar button, the resultant query will display in the grid. The user will be asked if a printed report is needed. If a report is requested, the SQR viewer will display the results of the query so the user can print a report or save it as a file.

Note: Only the Organization field allows the use of % wild card in the query. Example: MAD% will return transactions for all Organizations beginning with MAD.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text “Custom Application” was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Audit Query.
- Made the following modifications to the Pulldown Menus:

- File menu: Hid Save Record and Send Record.
- Edit menu: Hid Find Record, Delete Row, Undelete Row, Delete Document Registration, Delete Document Link, Set Linked Document Version, and Delete Record.
- View menu: Hid Record List, Refresh Record, and Count Records.
- Insert menu: Hid all menu options.
- Navigate menu: Hid Next Record, Previous Record, Hyperlink, all Return options, Scroll to Column.
- Setup menu: Hid Define Filter.
- Help menu: Hid Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Insert, Save, Next, Previous, View List, Return, Return with Selection, New, and Find toolbar buttons.
- Added Execute Query toolbar button (ToolButton1).

FEM Settings:

The following Hyperlinks were created:

- Employee # displays a selection list from the Tool Employee ID Management application.
- Organization displays a selection list from the Organizations application.
- Attendant # displays a selection list from the Tool Employee ID Management application.
- Toolroom displays selection list from the Operating Locations application.
- Category ID displays a selection list from the Tool Category ID Maintenance application.
- Tool Number displays a selection list from the Master Tool Inventory application.

The following Value List (and supporting field) was created:

- TOOLACTION for Action field.

Program Customizations:

MAXCUST.DLL "ToolAuditDialog.cpp" was created to:

- Query records from the MATUSETRANS, MATRECTRANS, and INVTRANS tables based on data entered in the 'Select By' area of the screen when the 'Execute Query' toolbar button is pushed.
- Wildcard queries are only allowed for the Organization field.
- Populate the 'Query Results' table with the results of the query. Only tool transactions matching the query will be displayed. FEM Inventory transactions and Tool Bin-to-Bin transfers will not be displayed.
- Generate the Tool Audit report.
- Print the results of the query if the user asks for a printed report.

A Tool Audit report (TLAUDIT) was written to:

- Generate a Tool Audit Report (By Tool Number). This report is used to capture the Transactions and Locations of the queried Tool Numbers with filters available for Dates, Transactions. It includes all Toolrooms. The records will be sorted by Date and Time.
- Generate a Tool Audit Report (By Employee Number). This report is used to capture Transactions and Locations of Tool Numbers associated with the queried Employee Number, with filters available for Tool Numbers and Dates and displays all Transactions for all Toolrooms. The records will be sorted by Date and Time.
- Generate a Tool Audit Report (By Organization) This report is used to capture the Transactions of Tool Numbers associated with the queried Organization, with filters available for Tool Numbers and displays all Dates and all Transactions. The records will be sorted by Employee Number, Date, and Time.
- Generate a Tool Audit Report (By Category). This report is used to capture the Transactions of Tool Numbers associated with the queried Tool Category, with filters set by specified Toolroom(s), and displays all Dates and Transactions. The records will be sorted by Category and Date.
- Generate a Tool Audit Report (By Toolroom Attendant). This report is used to capture the Transactions of Tool Numbers associated with the queried Toolroom Attendant and displays all Dates, Toolrooms, and Transactions. The records will be sorted by Date and Time.

Tool Issue Inquiry

Main Tab: This application displays a listing of current tool issues based upon any combination of available query filters. Data queried on this screen was entered through various transactions on the Tool Check Out and Check In application. Tool Issue Query is a read only application.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Issue Inquiry.
- Files menu: Hid Save Record; on Edit menu, Delete Row, Undelete Row, Delete Document Registration, Delete document Link, Set Linked Document Version, and Delete Record.
- Insert menu: Hid all of the options.
- Navigate menu: Hid Hyperlink, Return to Originating Application, Return with Selection, Return with Selection and Exit, and Scroll to Column.
- Help menu: Hid Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Insert, Save, Return with Selection, and New toolbar buttons.

FEM Settings:

The following Hyperlinks were created:

- Employee # displays a selection list from the Tool Employee ID Management application.
- Transporter displays a selection list from the Tool Employee ID Management application.
- Supervisor displays a selection list from the Tool Employee ID Management application.
- Attendant displays a selection list from the Tool Employee ID Management application.
- Organization displays a selection list from the Organizations application.
- Tool Number displays a selection list from the Master Tool Inventory application.
- Issuing Toolroom displays a selection list from the Operating Locations application.
- Category ID displays a selection list from the Tool Category ID application.

The following Value Lists (and supporting fields) were created:

- TOOLISSUETYPE for Type of Issue field.
- TOOLTYPE for Tool Type field.
- DELSTATUS for Delinquent Status field.

The following changes were made to the Overview dialog box:

- Employee # (c2), Name (c3), Transporter Employee # (c4), Transporter Name (c5), Tool Number (c6), Description (c7), Category ID (c8), Unit Cost (c9), Qty (c10), Line Cost (c11), Issue Date (c12), Due Date (c13), Remarks (c1), Organization (c14), Supervisor (c15).

Program Customizations:

•

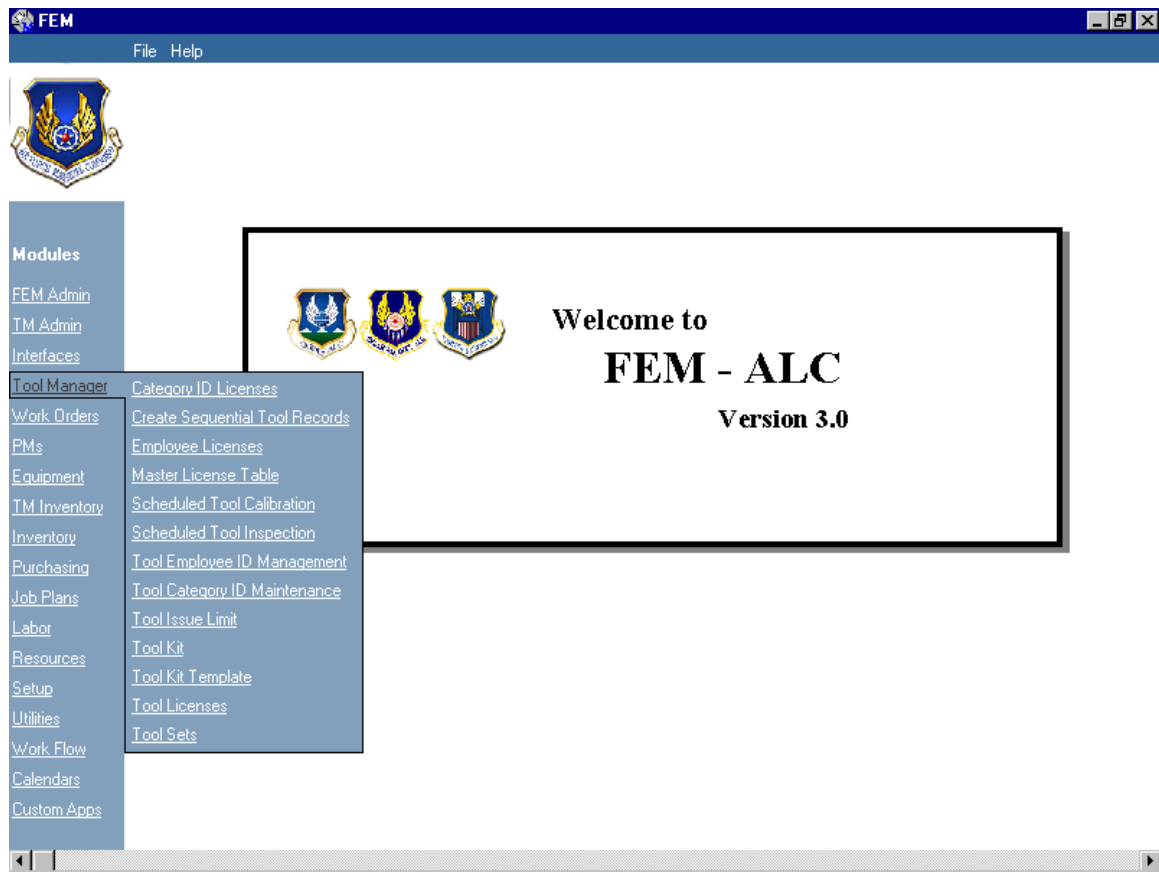
MAXCUST.DLL was modified to:

- Populate data in the ISSUGRID table when transactions are processed on the Tool Check Out and Check In application. See the Tool Check Out Check In application for more details.
- An Employee Inquiry report was created to print a list of the tools checked out by an employee, sorted by Issue Date.

Module 17

Tool Manager

Tool Manager Module



There are thirteen applications within the Tool Manager Module:

Category ID Licenses. This application is used to enter special licenses required by a specific category of tools.

Create Sequential Tool Records. This application is used to create sequentially numbered tool records. This application supports the mass entry of new, uniquely numbered tool records.

Employee Licenses. This application is used to enter special licenses for employees.

Master License Table. This application is used to enter license identifiers and their descriptions.

Scheduled Tool Calibration. This application is used to enter and view scheduled calibration data such as due dates, last calibration dates, and Owning RCC.

Scheduled Tool Inspection. This application is used to enter and view scheduled inspection data such as due dates, last inspection dates, and inspection frequency. Additionally it flags whether a tool requires a visual inspection at checkout or at check in.

Tool Employee ID Management. A clone of Labor, this application is used to maintain tool management related data for employees eligible to check out tools, employees who issue tools, and employees who maintain tool management data.

Tool Category ID Maintenance. This application is used to maintain data particular to a tool category. This data is then automatically inserted when creating a tool of that category.

Tool Issue Limit. This application allows users to assign issue time limits to tools by tool type for a particular Organization.

Tool Kit. This application is used to create Tool Kits and define what tools are included in the kit.

Tool Kit Template. This application is used to build the templates that define how a tool kit is to be built.

Tool Licenses. This application allows users to view and assign unique licenses required for identified tools.

Tool Sets. This application is used to create Tool Sets and define what tools are included in the set.

Category ID Licenses – Main Tab

Main Tab: This application allows the user to view and enter the special licenses for a specified category that are required by personnel before they can check out tools of that category. Entering license data in this application establishes template data, which can be applied to all tools designated with the same Category ID.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Category ID Licenses.
- Hid on Edit menu, Set Linked Document Version; on Insert menu, New Record, Duplicate Record; on Navigate menu, Return with Selection, Return with Selection and Exit; and on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return with Selection and New toolbar buttons.

FEM Settings:

The following Hyperlinks were created:

- Category ID displays a selection list from the Tool Category ID Maintenance application.
- License ID displays a selection list from the Master License Table application.

The following DLL Validation entries were created:

- Autopopulate on Field (License ID Description) from the Master License Table application.
- Autopopulate on Field (Category ID Description) from the Tool Category ID Maintenance application.
- Validate Category ID against the Tool Category ID Maintenance application and make Read Only on Query.
- Validate License ID against the Master License Table application and make Read Only on Query.

The following changes were made to the Overview Dialog Box:

- Category ID (c2), Description (c1), License ID (c3), Description (c4), Changed By (c5), Changed Date (c6).

The following fields are non-editable:

- Record Key, Category ID (Description), License ID (Description), Changed By, and Changed Date.

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL “catquals.cpp” was created to:

- Prevent creation of duplicate Licenses for the same Category ID.

The CATQUALS_T database trigger was modified to:

- Delete Tool License records from the TOOLQUAL table for all Kit tools with a matching Category ID if a Category License is deleted in the Category License application.

Create Sequential Tool Records – Main Tab

Create Sequential Tool Records

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Main

Record Key

Tool Record to Duplicate

Prefix of Record Number to Create

Suffix of 1st Record Number to Create

Number of Sequential Records to Create

Remarks

Changed By

Changed Date

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager**
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

QUERY

Main Tab: This application allows the user to create sequentially numbered tool records in mass. This application is used after new unique tools are purchased by Category ID and creates independent tools records for each tool purchased.

Note: If one of the new sequential record numbers already exists, the next available number in the sequence will be created. The system will continue until the Number of Sequential Records to Create field value has been satisfied.

Note: The Category ID record matching the tool to be duplicated must contain a sufficient available quantity to satisfy the request number. This quantity is automatically incremented when new tools are purchased by the Category ID and received in using the Purchase Orders application.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Create Sequential Tool Records.
- Hid on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Return and Return with Selection toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- The Tool Record to Duplicate field displays a selection list from the Master Tool Inventory application.

The following DLL Validation entries were created:

- Allowable Characters for Suffix of 1st Record Number to Create field (1234567890).
- Autopopulate on Field (Tool Description) from the Master Tool Inventory application.
- Autopopulate on Save Changed By field to current system user.
- Autopopulate on Save Changed Date field to current system date.
- Read Only Prefix of Record Number to Create field.
- Read Only Suffix of 1st Record Number to Create field.
- Read Only on Query Number of Records to Create field.
- Read Only on Query Remarks field.
- Validate Tool Record to Duplicate against ITEM.ITEMNUM and set to Read Only.

The following changes were made to the Overview Dialog Box:

- Record Key (cKey), Record to Duplicate (c2), Description (c3), Record Prefix (c5), 1st Record Suffix (c4), Quantity (c6), Changed By (c7), Changed Date (c8), Remarks (c1).

The following fields are non-editable:

- Changed Date, Changed By, and Tool Record to Duplicate (Description).

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL “ValidateChars.cpp” was created to:

- Validate that the Category ID tool record has sufficient quantity available in the toolroom default bin to create all the requested tool records.
- Allow only unique tool numbers to be selected as the Tool Record to Duplicate.
- Verify the user has access to the toolroom where the Category ID tool record exists.

MASSDUPE_T database trigger was modified to:

- Delete all previously printed records from the Sequential Tool Report (SQNTLRPT) table.
- Check to see if the new Tool Number already exists before creating it. If the tool Number exists it is skipped and the next number is used instead.
- Create tool records in the following tables: ITEM, INVENTORY, INVBALANCES, INVTRANS, TOOLCAL, and TOOLINSP. Records are created in the TOOLCAL and TOOLINSP tables only if the record being duplicated has a corresponding record in one of these tables.
- Create new Sequential Tool Report records for the tools that were created.

SEQUENTIAL_TOOL_UTIL database package was created to:

- This Package contains one procedure called GET_CURBAL that retrieves a requested tool number’s Category ID, Toolroom, Default Bin, and Qty Available. The Package also creates a public synonym for the package and grants access to the synonym for all FEM users.

The following Reports were created to support the Create Sequential Tools application:

- Sequential Tool Creation Report (SQTOOLCR.SQT): Provides a list of tool numbers created and any exceptions to the sequential order.

Employee Licenses – Main Tab

The screenshot shows the 'Employee Licenses' application window. The interface includes a menu bar (File, Edit, View, Actions, Insert, Navigate, Setup, Help), a toolbar with various icons, and a left-hand 'Modules' sidebar. The sidebar lists several modules, including 'Tool Manager'. The main content area, titled 'Main', contains a form with the following fields: 'Record Key', 'Employee #', 'License ID', 'Expiration Date', 'Changed By', 'Changed Date', and 'Remarks'. Each field has a small dropdown arrow next to it, indicating they are pull-down menus. The status bar at the bottom displays 'QUERY' and 'ABC'.

Main Tab: This application allows the user to view and enter special licenses for employees. Employee licenses are used for validation, during the check out of tools requiring specific licenses, to ensure the tool can be issued to the employee.

The users can also access this application from the Tool Employee ID Management application.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Employee Licenses.
- Hid on Edit menu, Set Linked Document Version; on Navigate menu, the Return with Selection, Return with Selection and Exit; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Return with Selection toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.

The following fields are non-editable:

- License ID (Description), Changed By, Changed Date , and Employee # (Name).

FEM Settings:

The following Hyperlinks were created:

- License ID displays a selection list from the Master License Table application.
- Employee # displays a selection list from the Tool Employee ID Management application.

The following DLL Validation entries were created:

- Validate Employee # against LABOR.LABORCODE and make Read Only on Query.
- Autopopulate on Field Employee # (Name) when EMPQUALS.EMPLOYEEENUMBER = LABOR.LABORCODE.
- Validate License ID against QUALMSTR.QUALIFICATIONID and make Read Only on Query.
- Autopopulate on Field License ID (Description) where QUALMSTR.QUALIFICATIONID = EMPQUALS.QUALIFICATIONID.
- Autopopulate on Save Changed By to the current system user.
- Autopopulate on Save Changed Date to the current system date.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Employee # (c3), Name (c2), License ID (c4), Description (c5) Expiration Date (c7), Changed By (c8), Changed Date (c9) Remarks (c1).

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL "ValidateChars.cpp" was created to:

- Validate that Employee # and License ID combination is not already in use.

Master License Table – Main Tab

Main Tab: This application allows users to view and enter license identifiers and their descriptions. The Owner field is to be used to identify who entered the data.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Master License Table.
- Hid on Edit menu, Set Linked Document Version; on Insert menu, New Record with Autonumber; on Navigate menu, Return with Selection, Return with Selection and Exit; on Help menu Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Return with Selection toolbar button.

FEM Settings:

The following DLL Validation entries were created:

- Autopopulate on Save Changed By to the current system user.
- Autopopulate on Save Changed Date to the current system date.

The following field defaults were built:

- Owner defaults to 'USER'.

The following Value List (and supported field) was created:

- OWNSQUAL for Owner field.

The following changes were made to the Overview Dialog Box:

- License ID, (cKey), Description (c1), Changed By (c2), Changed Date (c3), Owner (c4).

The following fields are non-editable:

- Changed By and Changed Date.

Program Customizations:

The QUALMSTR_T database trigger was modified to:

- Delete the corresponding License from the Employee License (EMPQUALS), Tool License (TOOLQUALS), and Category License (CATQUALS) tables when the Master License is deleted.

Scheduled Tool Calibration – Main Tab

Scheduled Tool Calibration

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager**
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

PMEL Number

Last Calibration Date

Calibration Frequency (Days)

Next Calibration Due

Tool Number Related Data

Tool Number

Tool Kit ID

Owning RCC

Remarks

Created By

Created Date

Changed By

Changed Date

QUERY

Main Tab: This application allows the user to enter and view calibration information indicating when a tool was last calibrated or when it is again due calibration. If the ALC uses the PMEL number as its tool number, the calibration fields are updated from the Metrology Preventive Maintenance application after a Calibration Work Order on the tool is completed.

Note: The Tool Number field on this screen is designed for use by those ALCs that do not use the PMEL Number as the tool number. It provides a method to cross-reference many bulk tool numbers to a single PMEL equipment number. In this case the PMEL number field will contain the ALC's tool number and the Tool Number field will contain the PMEL number to which it is crossed-referenced.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Scheduled Tool Calibration.
- Hid on Insert menu, Insert with Autonumber; on Navigate menu, Return with Selection and Return with Selection & Exit options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return with Selection toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Kit ID displays a selection list from the Tool Kit application.

The following DLL Validation entries were created:

- Set to Required, Read Only on Query and Validate PMEL Number against ITEM.ITEMNUM.
- Autopopulate on Field and Read Only on Query PMEL Number Description.
- Set to Read Only on Query and Validate Tool Number against ITEM.ITEMNUM.
- Autopopulate on Save Changed By field to current system user.
- Autopopulate on Save Changed Date field to current system date.
- Set to Read Only on Query Owning RCC.

The following field defaults were built:

- Created By and Created Date.

The following changes were made to the Overview dialog box:

- Tool Number (cKey), Description (c2), Cal Due Date (c3), Last Cal Date (c8), Frequency (c4), Created By, (c6), Created Date (c7), Changed By (c10), Changed Date (c11), Remarks (c1).

The following fields are non-editable:

- Created By, Created Date, Changed By and Changed Date.

Other:

- Hid the 'AutoNumber' option on the Insert Menu, Duplicate Record option dialog box.

Program Customizations:

DELINQUENT_TOOLS database package was created with the following procedures that are executed once each day:

- **UPDATE_INSP_CAL_DATES:** Clears the TOOLCAL date fields for records where the corresponding ITEM record has IN24 (Status condition) = "INACTIVE".
- **FLAG_DELINQUENT_TOOLS:** Updates the ISSUGRID table:
 - Sets the DELINQUENTSTATUS = 'DEL-CAL' for those tools that are due calibration (TOOLCAL.CALDUEDATE < sysdate). Also sets ITEM.IN24 (Status Condition) = 'CAL DUE' and sets ITEM.INSPECTIONREQUIRED (Ready for Issue) = 'N' if the tool is not checked out.
 - Sets a kit's DELINQUENTSTATUS = 'DEL-CAL' if a tool within the kit is set delinquent for calibration. Also sets ITEM.IN24 (Status Condition) = 'CALDUE' for the kit.

TOOLCAL_T database trigger was modified to:

- Set the tool's Ready for Issue = 'N' and the Status = 'CAL DUE' if the Calibration Due Date entered is less than the current date and the tool is not marked as 'Lost' or 'Stolen'.
- Set the tool's Ready for Issue = 'Y' and the Status = 'OK' if the Calibration Due Date entered is greater than the current date and the tool is not marked as 'Lost', 'Stolen', 'OK', or 'Checked Out'.
- Clear the Due Date if the Frequency is set to zero.
- Clear any delinquency status for the tool if the Due Date is cleared..

PM_T database trigger was modified to:

- Update the Next Due Date, Last Completion Date, and Frequency on the Tool's Tool Calibration record when a new PM record is inserted for a tool.
- Create a Tool Calibration record if one does not exist when a Metrology PM record is inserted for a tool.
- If the PM record for a tool is being updated and the Work Type is 'J' or 'B', the trigger updates the Next Due Date on the tool's Tool Calibration record.

MAXCUST.DLL "BinTransferDialog.cpp" was created to:

- Set the Ready for Issue flag = 'Y' and the Condition = 'OK' when a Calibrated tool is moved from the Receiving Bin to the Issuing Bin.

Calibration Recall Report (CALRECAL.SQT) was created to:

- Provide a list of all tools checked out from a particular toolroom that are delinquent or will be going delinquent for calibration within a specified time period so they can be recalled.

Scheduled Tool Inspection – Main Tab

Main Tab: This application allows the user to enter and view Inspection information indicating when a tool was last inspected or when it is again due Inspection. If the tool number is the same as a FEM Equipment number, the Next PM Due Date is updated from the Preventive Maintenance application after a Preventive Maintenance work order on the Tool is completed. Both of these dates are used when computing a Tool's Due Date when the tool is checked out.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Scheduled Tool Inspection.
- Hid on Navigate menu, Return with Selection and Return with Selection & Exit options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return with Selection toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.
- Inspected By displays a selection list from the Tool Employee ID Management application.

The following DLL Validation entries were created:

- Autopopulate on Field (Tool Description) from Item.
- Autopopulate on Field (Inspected By Name) from Labor.
- Autopopulate on Save Changed By field to current system user.
- Autopopulate on Save Changed Date field to current system date.
- Min/Max Length of Frequency (1 to 5).
- Validate Tool Number against Item.
- Set to Read Only on Query PM Next Due Date.

The following field defaults were built:

- Inspection Due at Check Out? defaults to 'N'.
- Inspection Due at Check In? defaults to 'N'.
- If Next Inspection Due Date set from Checkout.... defaults to 'N'.
- Created By and Created Date.

The following changes were made to the Overview dialog box:

- Tool Number (cKey), Description (c10), Inspection Due Date (c2), Last Date Inspected (c5), Inspection Lab/Shop (c4), Frequency (c3), Inspected By (c6), Name (c7), Inspect at Check Out? (c8), Inspect at Check In? (c9), Created By (c13), Created Date (c14), Changed By (c11), Changed Date (c12), Remarks (c1).

The following fields are non-editable:

- Tool Number Description, Inspected By Name, Created By, Created Date, Changed By and Changed Date.

Program Customizations:

DELINQUENT_TOOLS database package was created with the following procedures that are executed once each day:

- **UPDATE_INSP_CAL_DATES:** Clears the TOOLINSP date fields for records where the corresponding ITEM record has IN24 (Status condition) = "INACTIVE".
- **FLAG_DELINQUENT_TOOLS:** Updates the ISSUGRID table:
 - Sets the DELINQUENTSTATUS = 'DEL-INSP' for those tools that are due inspections (TOOLINSP.INSPDUE DATE < sysdate) or are due for a PM (TOOLINSP.TOOLINSP1 < sysdate). Also sets ITEM.IN24 (Status Condition) = 'INSP DUE' and sets ITEM.INSPECTIONREQUIRED (Ready for Issue) = 'N' if the tool is not checked out.

- Sets a kit's DELINQUENTSTATUS = 'DEL-INSP if a tool within the kit is set delinquent for inspection. Also sets ITEM.IN24 (Status Condition) = 'INSPDUE' for the kit.

TOOLINSP_T database trigger was modified to:

- Sets the Tool's Ready for Issue = 'N' and the Status = 'INSP DUE' if the Inspection Due Date entered is less than the current date and the tool is not marked as 'Lost' or 'Stolen'.
- Sets the Tool's Ready for Issue = 'Y' and the Status = 'OK' if the Inspection Due Date entered is greater than the current date and the tool is not marked as 'Lost', 'Stolen', 'OK', or 'Checked Out'.

PM_T database trigger was modified to:

- If the PM record for a tool is being updated and the Work Type is 'PM', the trigger updates the Next PM Due Date on the Tool's Tool Inspection record.

MAXCUST.DLL "BinTransferDialog.cpp" was created to:

- Set the Ready for Issue flag = 'Y' and the Condition = 'OK' when an Inspected tool is moved from the RECEIVING Bin to the Issuing Bin.

Inspection Recall Report (INSPRECAL.SQT) was created to:

- Provide a list of all tools checked out from a particular toolroom that are delinquent or will be going delinquent for inspection within a specified time period so they can be recalled.

Tool Employee ID Management – Main Tab

The screenshot shows the 'Tool Employee ID Management' application window. The interface includes a menu bar (File, Edit, View, Actions, Insert, Navigate, Setup, Help) and a toolbar. A sidebar on the left lists various modules: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The main area is titled 'Tool Employee ID Management' and contains a form with the following fields:

- Employee #
- Organization
- Labor Type
- Record Type
- PAC Code
- Authorized Toolroom
- Fax
- Beeper
- Work Phone #
- E-mail
- Outside Employee?
- Employed By
- Supervisor's Employee #
- Hired Date
- Authorized to Receive Tools?
- Projected Departure Date
- Departure Date
- Reason Not Authorized
- Modified By
- Modified Date

At the bottom of the form, there are two buttons: 'Assigned Licenses' and 'Application Authorizations'.

Labor Tab. This application is used to maintain tool management related data for employees eligible to check out tools, employees who issue tools, and employees who maintain tool management data. Information collected on this screen will be used throughout the Tool Management system within each ALC site. Records can also be created for Organizations and Projects, enabling tools to be issued to an Organization or Project.

Tab Customizations:

The following changes were made to the pull-down menus:

- Renamed Exit MAXIMO to Exit FEM.
- Hid on Help menu, Visit us on the Web.

The following items were renamed:

- Vender to Employed By, Supervisor to Supervisors Employee #, Last Evaluation Date to Departure Date, and Next Evaluation Date to Projected Departure Date.

FEM Settings:

The following Hyperlinks were created:

- The Assigned Licenses button launches to the Employee Licenses application.
- The Application Authorizations button launches to the Application Authorizations application.
- Organization displays a selection list from the Organizations application.
- Employed By field displays a selection list from the Companies application.

The following DLL Validation entries were created:

- Autopopulate Modified By to current system user when the record is saved.
- Autopopulate Modified Date to current system date when the record is saved.
- Validate Organization against Organizations.
- Make Labor Type field required.
- Make Record Type field required.
- Make Organization field required.
- Validate Authorized Toolroom against Operating Locations.

The following DLL Transfer entries were created:

- Employee ID and Organization to Application Authorizations.

The following field defaults were built:

- Modified By and Modified Date.
- Record Type defaults to 'EMP'.
- Authorized to Receive Tools? defaults to 'Y'.
- Outside Employee? defaults to 'N'.
- Hired Date defaults to the current system date.

The following Value Lists (and associated supported fields) were created:

- EMPLOYEE TYPE for Labor Type field.
- RECORDTYPE for Record Type field.

The following changes were made to the Overview dialog box:

- Employee # (cKey), Name (c1), Type, (c2), Supervisors Employee # (c4), Organization (c5), Work Phone (c6), Modified By (c7), Modified Date (c8).

The following fields are non-editable:

- Modified By and Modified Date.

Program Customizations:

MAXCUST.DLL “ToolEmpl.Cpp” was created to:

- When Record Type = CON (Contractor), make Authorized Toolroom a mandatory field entry.
- If a Departure Date is entered that is prior to the current date, set Authorized to Receive Tools = ‘N’ and provide a reason in the Remarks field.
- If a Projected Departure Date is entered that is prior to the current date, set Authorized to Receive Tools = ‘N’ and provide a reason in the Remarks field.
- When tools are currently checked out to the employee, prevent entry of a Departure Date and advise with message.

The following Trigger / Procedure changes were made:

- LABOR_T trigger was modified to set Authorized to Receive Tools to ‘N’ when the Projected Departure Date or Departure Date is entered that is prior to the current date. The trigger also sets all of the employee’s tools to delinquent if the Projected Departure date is set to a date prior to the current date.
- DELETE_EMPLOYEE, a nightly DB Job, will remove the associated record in Application Authorizations when the Departure Date is reached.
- UPDATE_LABOR, a nightly DB Job, will set Authorized to Receive Tools to ‘N’ when the Projected Departure Date is reached. (This will force the LABOR_T trigger to set Employee’s tools delinquent.)

The following report was created to support the Tool Employee ID Maintenance application:

- Employee Identifier Barcode Label Report (EMPIDLBL.SQT): Prints a barcode label on an Intermec 4400 printer for the Employee’s ID.

Tool Category ID Maintenance – Main Tab

Tool Category ID Maintenance

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Main

Category ID

Tool Type Assigned Toolroom

Issue Time Limit (Days) Issue Amount Cost

Manufacturer Model FSN

Remarks

Changed By Changed Date

Indicators for Mass Update of Existing Tool Records

Set to Y(es) the corresponding data elements to be updated in the tool records upon saving this Category ID record.

Update Category Description? <input type="checkbox"/>	Update Cost? <input type="checkbox"/>	Update Model Number? <input type="checkbox"/>	Update Licenses? <input type="checkbox"/>
Update Federal Stock Number? <input type="checkbox"/>	Update Tool Type? <input type="checkbox"/>	Update Issue Time Limit? <input type="checkbox"/>	Update Manufacturer? <input type="checkbox"/>

QUERY ABC

Main Tab: This application allows the user to create distinct categories that tools can be linked to for use in other applications. This application also allows users to maintain and mass change data particular to a tool category. The bottom portion of the screen allows the user to flag which data elements should be mass updated in the tool records.

Note: The Application Authorizations application can be used to limit who has access to use the Mass Update Indicators.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Category ID Maintenance.
- Hid on Navigate menu, all Return options; on the Insert menu, Insert with Autonumber; on the Help pull-down menu, Visit us on the Web.

The following changes were made to the Screen:

- Removed Long Description detail button from the Category ID Description field.

FEM Settings:

The following Hyperlinks were created:

- Manufacturer field displays a selection list from the Companies application.
- Assigned Toolroom displays a selection list from the Operating Locations application.
- Required License button launches to the Category ID Licenses application.

The following DLL Validation entries were created:

- Autopopulate the (Manufacturer) Description from Companies.
- Autopopulate Changed By to the current system user when the record is saved.
- Autopopulate Changed Date to the current system date when the record is saved.
- Make Assigned Tool Room Required and Read Only on Query and Validate against the Operating Locations application.
- Make Required Category ID Description.
- Validate Manufacturer against the Companies application.
- Make Required Tool Type.

The following field defaults were built:

- Update Category Description?, Update Tool Type?, Update Federal Stock Number?, Update Manufacturer?, Update Model Number?, Update Issue Time Limit?, Update Cost?, and Update Licenses? default to 'N'.
- Cost defaults to \$0.00.
- Changed By and Changed Date.

The following Value List (and supported field) was created:

- TOOLTYPE for Tool Type field.

The following changes were made to the Overview Dialog Box:

- Category ID (cKey), Description (c1), Tool Type (c3), FSN (c4), Manufacturer (c5), (Manufacturer) Name (c6), Model (c7), Issue Tool Limit (c8), Issue Time Limit (c9), Cost (c10).

The following fields are non-editable:

- Manufacturer (Name), Changed Date, and Changed By.

Program Customizations:

MAXCUST.DLL “ToolCats.ccp” was created to:

- Set Mass Move Indicators to read only based on settings in the Application Authorizations application.

The TOOLCATS_T Database trigger was modified to perform several functions:

- Create a Tool Record in the Assigned Tool Room (ITEM, INVENTORY, and INVTRANS Tables) each time a Category record is created.
- Update selected values on the Tool Record (ITEM, INVENTORY, and INVTRANS) based on indicators in the Mass Update section on the screen when at Category record is updated.
- Update Tool Cost data on the Tool Kits, Tool Kit Templates, Issued Tools, and Tool Repair records when the Update Tool Cost flag is set to ‘Y’
- Field Audit records are created each time the Description or Time Limit is changed and the Update Description or Update Time Limit flag are set.
- Updates Tool Licenses (TOOLQUALS) if the Update Licenses flag is set to “Y”.
- Reset the Mass Update indicators to ‘N’ after a record is saved.

Tool Issue Limit – Main Tab

Tool Issue Limit

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Main

Record Key Remarks

Org / Tool Type / Issue Time Limit Cross Reference

Organization Tool Type Issue Time Limit (Days)

Record Modification Data

Changed By Changed Date

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

QUERY

Main Tab: This application allows Time Limits (in Days) to be established for a tool based upon its Tool Type and the Organization that owns it. The Organization, Tool Type and Issue Limit are required entries. The values entered on this screen will be used during tool checkout to determine the tool's Issue Time Limit if one is not explicitly defined for the tool, by the tool record or the tool's Category ID record. If no limit is specified by the tool record, the tool's Category ID record, or the tool's Organization/Type, the system will default the Issue Limit to the Default Time Limit specified in the FEM System Variable DEFAULT_TIME_LIMIT.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Issue Limit.
- Hid on Help menu, Visit us on the Web

FEM Settings:

The following Hyperlinks were created:

- Organization displays a selection list from the Organizations application.

The following DLL Validation were created:

- Autopopulate on Save Changed By with the current system user.
- Autopopulate on Save Changed Date with the current system date.
- Verify the Organization is a valid Tool Organization.

The following Value List (and supporting field) was created:

- TOOLTYPE for Tool Type field.

The following changes were made to the Overview dialog box:

- Key (cKey), Description (c1), Organization (c2), Tool Type (c3), Issue Time Limit (c4).

The following fields are non-editable:

- Changed By and Changed Date.

Program Customizations:

- Created Unique Index on Record Key, Organization, and Tool Type.

Tool Kit – Main Tab

The screenshot shows the "Tool Kit" application window. On the left is a vertical sidebar menu containing options like FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PM's, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The main area has a top toolbar with icons for file operations and navigation. Below the toolbar are several form sections: "Main" with fields for Tool Kit Number, Template ID, Owning Org, Requesting Org, Status, Employee ID, Changed By, Issue Time Limit (Days), Kit Type, Ready for Issue?, Renewable Issue?, TR Exists?, Complete Kit?, % Complete, Cost; and "Components" which contains a large table. A callout box points to the table header row, listing required fields: Shortfall, Replacement Tool Qty, Lost Tool Qty, TR?, Tool Type, Remarks, Unit Cost, Line Cost. At the bottom, there is a "Search Criteria" section with radio buttons for Tool Number, Category ID, or Description, followed by a search button and instructions.

Main Tab: This application allows users to create and view Tool Kit data. The application allows the user to enter the specific tool numbers that are included in each kit.

When building a kit the user selects a Kit Template that will be used to define the kit and a toolroom where the kit will be built. Once a toolroom is selected the system has two processing methods: automatically fill the kit with available tools from the toolroom's inventory or wait for the user to fill the kit manually. A FEM Variable setting controls these options.

The Status, Employee ID, Ready for Issue?, and Renewable Issue? fields provide information about the kit. Status advises the current condition of the Kit. Employee ID identifies the individual who has the Kit in their possession. It is only populated when the Status is CHECKEDOUT. The Ready for Issue? flag allows the Kit to be displayed as an available tool to be checked out when the status is OK. Renewable Issue? allows the tool kit to be renewed without having to check it back in.

The Tool Kit component grid displays the tools currently assigned to the Tool Kit. Add-ons or deletions from the Kit are possible. In addition, each tool (row) contains a number of columns identifying the current status of the tool. The various quantity fields show not

only the current quantity on hand within the Kit, but also any shortages and what type they are. These columns can also advise if a tool currently has a Tool Request against it.

The Generate TR toolbar button is used to automatically create a Tool Request to a stocking toolroom to fill shortages within a kit. This option is used after all available tools in the issuing toolroom have been used. Access to this button is controlled through Applications Authorizations in the Tool Administration module.

The Empty Kit toolbar button is used when a kit is broken down. It automatically zeros out the Kit Quantity for each tool within the kit and returns the tools to the toolroom's inventory. Access to this button is controlled through Applications Authorizations in the Tool Administration module.

The Delete Kit toolbar button is used to delete a kit from the system. It will delete the Master Tool Inventory record for the kit as well as any transaction records. Tool Kits cannot be deleted if they are checked out or have not been emptied. Access to this button is controlled through Applications Authorizations in the Tool Administration module.

The Remove Template toolbar button is used to remove the Template from the Kit. It will remove all tools in the Kit so another Template with new tools can be assigned to the Kit. The Kit must be emptied before a Template can be removed. Access to this button is controlled through Applications Authorizations in the Tool Administration module.

Note: When a Kit Template is modified, a nightly database job is executed to update all kits impacted by the template modification. When kits are modified due to changes to an approved template, the modified Kit grid line is displayed in italics.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application has been removed from pull down menus.
- Renamed: appCustApp to Tool Kit, Exit All to Exit FEM.
- Hid Duplicate Record option, hid on Insert menu, Insert with Autonumber, on Navigate menu, all Return options, on Help menu: Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return and Return with Selection tool buttons.
- Added Empty Kit (pbToolButton1).
- Added Gen TR (pbToolButton3).
- Added Delete Kit (pbToolButton2).
- Added Remove Template (pbToolButton5).

FEM Settings:

The following fields are non-editable:

- TR Exists?, Percent Complete, Cost, Changed Date, Changed By, Created Date and Created By.

The following field defaults were built:

- Created By and Created Date.
- Ready for Issue? defaults to Y; Complete Kit? and Renewable Issue? default to N.
- Status defaults to OK.
- Status Date defaults to the current system date.

The following Hyperlinks were created:

- Tool Kit # hyperlinks to the Tool Request application to show open Tool Requests for the kit.
- Template ID displays a selection list from the Tool Kit Template application.
- Toolroom displays a selection list from the Operating Locations application.
- Owning Organization displays a selection list from the Organizations application.
- Requesting Organization displays a selection list from the Organizations application.

The following Value List (and supporting field) was created:

- KITTYPE for Kit Type field.

The following DLL Validation entries were created:

- Autopopulate on Field Kit Type from Kit Template.
- Autopopulate on Field (Tool Kit # Description) from Kit Template.
- Autopopulate on Save Changed By to current system user.
- Autopopulate on Save Change Date to current system date.
- Read Only on Query Kit Type.
- Read Only on Query and Required Toolroom.
- Read Only on Query Complete Kit?.
- Read Only on Query Same as Templat?.
- Set to Required Ready for Issue?.
- Set to Read Only on Query Employee ID.
- Autopopulate on Field and set to Read Only on Query Owning Org.
- Autopopulate on Field and set to Read Only on Query Employee Name.
- Validate Template ID against Kit Template and set to Required.
- Autopopulate Template Description from Template ID.
- Validate Toolroom against Operating Locations and set to Required.
- Validate Owning Organization as a Tool Company Record
- Validate Requesting Organization as a Tool Company Record

The following changes were made to the Overview Dialog Box:

- Tool Kit Template (cKey), Description (c1), Template ID (c2), Toolroom (c3), Kit Type (c4), Ready for Issue? (c6), Status Date (c7), Status Reason (c8), Complete Kit? (c14), Cost (c5), Renewable? (c13), Created By (c11), Created Date (c9), Changed By (c12), Changed Date (c9).

The following FEM Variable option exists:

- AUTOADJTOLCURBAL. If Yes, auto decrements a tool's quantity available when the kit is built and saved.

Program Customizations:

MAXCUST.DLL Modifications:

- KitToolRequestDialog.cpp was created to:
 - Display the Tool Request Dialog Box when the Generate TR toolbar button is pushed.
 - Display tools that have shortfalls in the Grid and allow the user to update the requested quantity.
 - Allow the user to select the Receiving and Stocking toolrooms.
 - Generate a Tool Request, prefixed by TK, requesting each tool in the dialog box.
 - Set the Tool Request flag = 'Y'.
- ToolKitsDialog.cpp was created to:
 - Ensure the user has access to the toolroom.
 - Check Application Authorizations application settings to see if the user has access to the Empty Kit and Generate TR Buttons.
 - Check Application Authorizations application settings to see if the user has permission to change a Kit's status.
 - Ensure a record is inserted before allowing the user to enter data in the Components grid.
 - Fill the Components grid based on the Template selected when a Toolroom is entered.
 - Read the FEM variable AUTOADJTOLCURBAL to determine if Kit Quantities should be automatically populated from toolroom inventory. If the toolroom's available quantity is not sufficient, set Kit Quantity = 0.
 - Validate quantities entered manually against available toolroom quantity.
 - Deduct tools from inventory when the Tool Kit record is saved.
 - Allow the user to search for tools in the grid using the Search feature. The grid will scroll to the first tool matching the search criteria. Pressing Search again will move to the next tool that matches the criteria. The Search feature will allow a search using a changed tool number (one change cycle only).
 - Allow adding tools not in the template.
 - Allow kit tool quantities to exceed template tool quantities.
 - Compute the quantity of tools in the kit and the kit value.
 - Empty the kit and return the tools to the toolroom inventory when the Empty Kit button is pushed.
 - Delete the kit when the Delete Kit button is pushed.
 - Remove the Template and Line items when the Remove Template button is pushed.
- ReplacementRequestDialog.cpp was created to:
 - Set the TR? flag = 'Y' on the row of the appropriate tool when a Replacement Request is done for the tool in the Tool Check Out and Check In application.

- LostStolenDialog.cpp was created to:
 - Set the TR? flag = 'Y' on the row of the appropriate tool when it is reported as Lost or Stolen in the Tool Check Out and Check In application and the Kit Replacement 'Yes' button is selected or the 'Generate TR' button is selected.
- ReplacementIssueDialog.cpp was created to:
 - Set the TR? flag = 'N' on the row of the appropriate tool when a Replacement Issue is processed for the tool in the Tool Check Out and Check In application.

The following Database Triggers and Procedures were created/modified:

- TKLINE_T database trigger was modified to:
 - Assign Tool Licenses to a tool kit based on the tools that are in the tool kit.
 - Set a hidden field in the Labor table (LA16) to indicate that a tool kit has changed since the Employee checked the kit out.
 - Update the tool kit cost when a tool cost is changed.
 - Call TKLINES_TR_STMT to delete duplicate licenses assigned to a tool kit.
- TKLINES_TR_STMT statement level trigger was created to:
 - Delete duplicate licenses assigned to a tool kit by the TKLINES_T trigger.
 - Delete any line in the tool kit where the Kit Quantity, Replacement Quantity, and Lost Quantity are all zero, and there are no outstanding Tool Requests.
- TOOLKITS_T database trigger was created to call the TOOLKITS_TR_STMT trigger to update the tool description when the kit description changes.
- TOOLKITS_TR_STMT statement level trigger was created to update the Master Tool Inventory tool description when the tool kit description changes.
- PR_T database trigger was modified to clear Tool Request flags when Tool Requests pertaining to the kit are Closed or Cancelled.

The following reports were created to support the Tool Kits application:

- Tool Kit Contents listing Report (KITLIST.SQT).
- Kits Issued by Organization (KITSSORG.SQT).
- Shortfall Tools in Kits by Mechanic (MECHSFL.SQT).
- Shortfall of Tools in Kits by Organization (SFKITORG.SQT).

Update Kit toolbar button allows the user to select a particular kit to update immediately after modifying a Kit Template. The Template must be approved before a it can be updated. Access to this toolbar button must be granted using the Application Authorizations application.

Note: All Kits associated with the template are updated via a nightly database job. Only those template lines that were modified will be updated on the associated kits.

Tab Customizations:

The following changes have been made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Kit Template.
- Hid on Insert menu, Insert with Autonumber; on Navigate menu, Return with Selection and Return with Selection & Exit options; on Help menu, Visit us on the Web.

The following changes have been made to the Toolbar:

- Hid the Return with Selection Toolbar button.
- Added a Duplicate Template Button.
- Added a Generate TR button.

FEM Settings:

The following DLL Validation entries were created:

- Autopopulate on Save Changed By to the current system user.
- Autopopulate on Save Changed Date to the current system date.
- Set to Required and Validate Toolroom.
- Set to Required Status.
- Set to Required Creating Organization.
- Set to Read Only on Query TR Exists?.
- Set to Required Kit Type.

The following Hyperlinks were created:

- Creating Organization displays a selection list from the Organizations application.
- Requesting Toolroom displays a selection list from the Operating Locations application.

The following changes were made to the Overview dialog box:

- Kit Template ID (cKey), Description (c1), Status (c9), Kit Type (c4), Cost (c5), Created By (c6), Created Date (c2), Changed By (c7), Changed Date (c3).

The following field defaults were built:

- Created By and Created Date.

The following Value Lists (and supported fields) were created:

- KITTYPE for Kit Type field.
- QASTATUS for (Template) Status field.

The following fields are non-editable:

- Total Qty, Cost, TR Exists?, Changed By, Changed Date, Created Date and Created By.

The Following FEM Variable was created to support the application:

- DFLTDRAWER – Defines the default drawer number to be used with adding Tools to a Tool Kit Template. If blank, no drawer number is defaulted.

Program Customizations:

MAXCUST.DLL Modifications:

- “ToolKitTemplateDialog.cpp” was created to:
 - Ensure the user has access to the toolroom.
 - Check the Application Authorizations application settings to see if the user has access to the Duplicate Template and Generate TR Buttons.
 - Check the Application Authorizations application settings to see if the user has permission to change a Template’s status.
 - Ensure a record is inserted before allowing the user to enter data in the grid.
 - Allow the user to enter a valid Category ID or Tool Number from the selected Toolroom in the grid.
 - Prevent both a Category ID and Tool Number from being entered on the same row in the grid.
 - Allow only one instance of a Category ID / Drawer combination.
 - Allow only one instance of a Tool Number / Drawer combination.
 - Retrieve the Unit Cost for each selected tool and compute a Line Cost based on the tool quantity.
 - Compute the quantity of tools in the kit template and the template value.
 - Allow the user to search for tools in the grid using the Search feature. The grid will scroll to the first tool matching the search criteria. Pressing Search again will move to next tool that matches the criteria. The Search feature will allow using a changed tool number (one change cycle only).
- Display the Tool Request Dialog Box when the Generate TR toolbar button is pushed:
 - The Template must be approved.
 - A message will appear if a Tool Request has already been generated for the template, but the system will allow you to continue.
 - Allows the user to select the number of kits to be built.
 - On the generated Tool Request, the ID will be prefixed with TT, Requested By will have the Template ID, and Requesting Organization will be populated with the Creating Organization from the template. The

TR Lines tab will have each tool with an order quantity equal to the number of kits being built times the quantity of the tool in the template.

- Set the TR Exists? flag = 'Y'.
- Display the Duplicate Template Dialog Box when the Duplication Template button is pressed:
 - Allows the user to enter the template number to be duplicated.
 - Allows duplication of the information in the grid for approved templates. The information above the grid must be inserted before pushing the Duplicate Template toolbar button.
- Display the Update Kit Dialog Box when the Update Kit toolbar button is pressed:
 - The Template must be approved.
 - Allows the user to select which kit to update.
 - Calls the BALANCE_SINGLE_KIT database procedure to update the selected kit

KITLINES_T database trigger was modified to:

- Update the cost of the kit template when the cost is modified on a tool within the kit.
- Set the Drawer Modified Flag to 'Y' if the Drawer Number is changed for the tool within a kit.

KITTEMPL_T database trigger was modified:

- Set the Template modified flag (KITEMPL6) to Yes if a template status is changed from WAPPR to APPR and there are already Kits created from the template.

BALANCE_KIT database procedure was created and included in a nightly database job to:

- Identify all kits that need to be updated because of changes to their templates.

BALANCE_TEMPLATE database procedure was created and included in a nightly database job to update kits identified by the BALANCE_KIT procedure:

- Adds Kit Lines to match Template lines added. If added tool/drawer combination is already in the kit as an add-on it will be linked to the template
- Deletes Kit Lines when the corresponding Template Line is deleted if the Kit Tool Quantity and Replacement Quantity, and Lost Quantity all are zero, and there are no outstanding Tool Requests. Otherwise the Template Quantity is set to zero.
- Modifies Kit Lines if the Kit Template Quantity or Drawer was modified in the template.

BALANCE_SINGLE_KIT database procedure was created to update the kit identified in the Update Kit Dialog box. It performs the same functions as the BALANCE_KIT procedure except it is for a single Kit.

The following report was created to support the Tool Kit Templates application:

- Tool Kit Template Listing Report (KITLIST.SQT).

Tool Licenses – Main Tab

The screenshot shows the 'Tool Licenses' application window. The title bar reads 'Tool Licenses'. The menu bar includes 'File', 'Edit', 'View', 'Actions', 'Insert', 'Navigate', 'Setup', and 'Help'. The toolbar contains icons for file operations and a 'Delete Current License' button. The 'Main' tab is selected, displaying a form with the following fields:

- Record Key: [Text Field]
- Tool Number: [Pull-down Menu]
- License ID: [Pull-down Menu]
- Changed By: [Pull-down Menu]
- Changed Date: [Pull-down Menu]

A left sidebar titled 'Modules' lists various system components: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The bottom of the window features a 'QUERY' button and a 'REC' button.

Main Tab: This application allows users to view and assign unique licenses required for identified tools. These licenses will be compared to the employee's licenses at the time the tool is checked out. If the employee does not have the required licenses the system will not allow the tool to be checked out to the employee.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Licenses.
- Hid on Edit menu, Set Linked Document Version; on Navigate menu, Return with Selection and Return with Selection and Exit; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return with Selection toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.
- Added Delete Current License toolbar button (pbToolButton1).

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.
- License ID displays a selection list from the Master License Table application.

The following DLL Validation entries were created:

- Autopopulate on Field (Tool Description) from the Master Tool Inventory application.
- Autopopulate on Field (License ID Description) from the Master License Table application.
- Validate and make Read Only on Query Tool Number.
- Validate and make Read Only on Query License ID.

The following changes were made to the Overview Dialog Box:

- Record Key (cKey), Description (c1), Tool Number (c2), License ID (c3), Description (c4), Changed By (c5), Changed Date (c6).

The following fields are non-editable:

- Changed By, Changed Date, License ID (Description), and Tool Number (Description).

The following field defaults were built:

- Changed By and Changed Date.

Program Customizations:

MAXCUST.DLL “ToolQualification.cpp” was created to:

- Add tool licenses to any kit that the tool belongs to when a new license is added.

Tool Sets – Main Tab

Tool Sets

File Edit View Actions Insert Navigate Setup Help

Create Set Breakdown Set New Find How Do I...?

Main

Set Number Cost

Toolroom Owning Org Pieces in Set

Category ID Status Status Date

Remarks

Changed By Changed Date Created By Created Date

Component Details

Tool Number	Description	Bin	Available Qty	Quantity	Unit

Quantity, Unit Cost, Line Cost, Drawer, Remarks

QUERY

Main Tab: This application allows for bulk tools, with no Licenses, to be defined as a Tool Set. This screen is used to define the template for the Tool Set. Once the Tool Set template is completely defined, the status can be changed to “Approved” which will lock the Tool Set’s definition. When the toolroom attendant has physically built the sets, the “Create Set” toolbar button can be used to create a tool record for the Set in Master Tool Inventory. The Create Set function will prompt for a quantity and automatically deduct the appropriate amount of tools from inventory for the quantity of sets built. This will then allow the Tool Set to be processed with the standard tool management software. When a Tool Set is broken down the attendant can use the “Breakdown Set” toolbar button to return the individual tools back to inventory and automatically adjust balances.

Note: Once a Tool Set is approved it can no longer be modified.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Sets.
- Edit menu: Hid Set Linked Document Version.
- Navigate menu: Hid Return with Selection and Return with Selection and Exit.
- Help menu: Hid Visit us on the Web.

The following changes were made to the Toolbar:

- Added Create Set toolbar button.
- Added Breakdown Set toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Toolroom displays a selection list from the Operating Locations application.
- Owning Org displays a selection list from the Organizations application.
- Category ID displays a selection list from the Tool Category ID Maintenance application.

The following DLL Validation entries were created:

- Autopopulate on Save Changed By with the current system user.
- Autopopulate on Save Changed Date with the current system date.
- Made Required, Read Only on Query and validated Toolroom.
- Made Required, Read Only on Query and validated Owning Org.
- Made Category ID mandatory.

The following field defaults were built:

- Created By and Created Date.
- Set Cost to \$0.00.
- Set Status to 'WAPPR'.
- Set Status Date to current date.

Set the following fields to non-editable:

- Cost, Pieces in Set, Status Date, Created By, Created Date, Changed By, Changed Date.

The following changes were made to the Overview Dialog Box:

- Tool Set # (cKey), Description (c1), Status (c2), Tool Room (c5), Owning Org (c6), Remarks.

Program Customizations:

MAXCUST.DLL “ToolSetsDialog.cpp” was created to:

- Display and manipulate the Component Details grid.
- Display a selection list of Bulk Tools within the selected toolroom for the Tool Number column.
- Display the selected Tool’s Description and Unit Cost from the toolroom.
- Display the Qty Available from the Tool’s Default Bin.
- Compute a Line Cost for the tools once a Quantity is entered.
- Lock the user out of the Component Details grid when the Set is approved so no more changes can be made.
- Update the SETGRID table with data from the grid when a record is saved.
- Update the Cost and Pieces in the Set fields based on data entered in the Component Details grid.
- Perform the following actions when the “Create Set” toolbar button is pushed:
 - Display a dialog box to request the number of sets to create.
 - Verify there are enough tools in the Default Bin in the toolroom to satisfy the request. If not an error message is displayed and no tools are added to the set.
 - If a tool record does not exist for the Tool Set, a record is inserted into the ITEM, INVENTORY, and INVBALANCES tables. An INVTRANS record is inserted to document the creation of the Tool Set record.
 - If a tool record already exists for the Tool Set, the quantity available is increased by the requested amount and an INVTRANS record is inserted to document the balance change.
 - The balances of the tools are reduced by the quantity requested and an INVTRANS record is inserted to document the balance adjustment.
- Perform the following actions when the “Breakdown Set” toolbar button is pushed:
 - Display a dialog box to request the number of sets to breakdown.
 - Verify there are enough Tool Sets in the Default Bin in the toolroom to satisfy the request. If not an error message is displayed.
 - The Tool Set balance is decreased by the requested amount and an INVTRANS record is inserted to document the balance change.
 - The balances of the tools are increased by the quantity requested and an INVTRANS record is inserted to document the balance adjustment.

The TOOLSETS_T database trigger was modified to:

- Prevents Tool Sets that have a Master Inventory Record from being deleted.
- Delete the corresponding SETGRID records when a Tool Set record is deleted.

Notes:

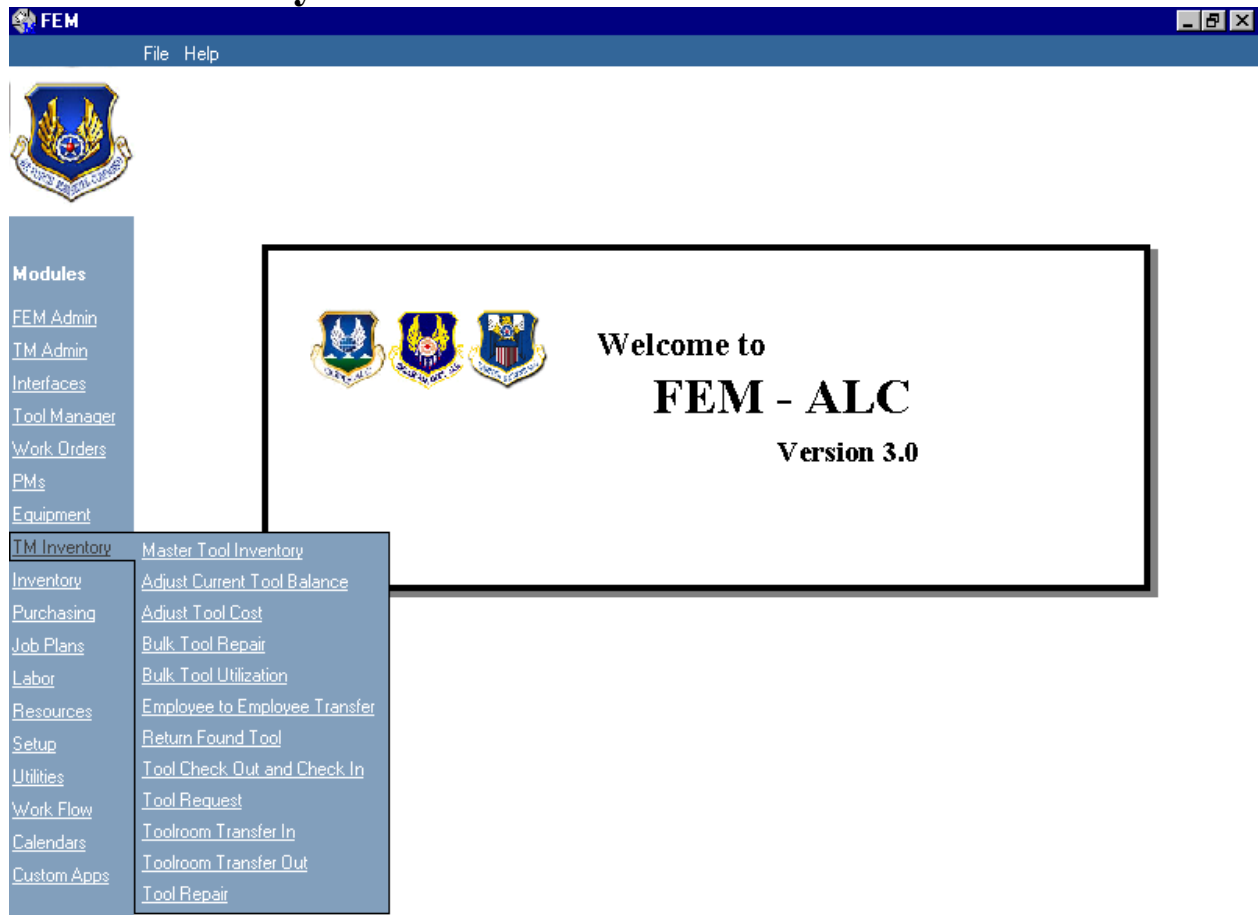
- In the Tool Check Out and Check In application, Tool Sets can only be checked in using the OK condition.
- Tools within a Tool Set can be exchanged.

- Tools within a Tool Set can be reported as lost or stolen, but only if there is sufficient quantity at that time to completely replace the lost or stolen tools.

Module 18

Tool Inventory

Tool Inventory Module



The inventory-type functions for Tool Management have been grouped into a separate inventory module called TM Inventory. There are twelve applications within the TM Inventory Module:

Master Tool Inventory. This application is used to create and view tool records, check tool availability, check the balances of tool in all toolrooms, and view tool transaction information. Bin Transfers are performed in this application.

Adjust Current Tool Balance. This application provides the user with the ability to update the current balance of a tool within a toolroom's inventory. It is used only for Bulk tool, Consumable tools, Expendable tools, Safety tools, and Tool Sets.

Adjust Tool Cost. This application allows for the cost of a tool to be adjusted.

Bulk Tool Repair. This application provides the means to track the repair costs associated with bulk tools.

Bulk Tool Utilization. This application allows a user to view bulk tool repair costs by Toolroom, Organization, or by a defined period of time.

Employee to Employee Transfer. This application provides a direct method to transfer issued tools from one individual to another.

Return Found Tool. This application is designed to provide a method of returning found tools. It is used only for Calibrated tools, Modified tools, Serialized tools, and Tool Kits.

Tool Check Out and Check In. This application allows the user to issue tools, return tools, renew tools, exchange tools, report lost or stolen tools, modify a tool's Issue Type after it has been issued, process replacements for kitted tools, and update kits when shortages become available.

Tool Request. This application allows the user to request additional tools from the main, stocking toolroom.

Toolroom Transfer In. This application allows the user to indirectly receive tools from another toolroom.

Toolroom Transfer Out. This application is designed to support toolroom transfers of tools that require receipt at the destination toolroom.

Tool Repair. This application allows the user to enter and view tool cost and repair related information when a tool is in need of repair.

Master Tool Inventory – Tool Catalog Tab

Master Tool Inventory

File Edit View Actions Insert Navigate Setup Help

How Do I...? Part # Search Adjust Balance Adjust Cost Bin Transfer

Tool Catalog Toolroom Reorder Details Transactions Specification Linked Documents

Tool Number

Category ID Tool Cost Manufacturer

Tool Type Issue Limit (Days) Serial Number

Acquisition Date Licenses? ☐ Federal Stock Number

Unique Tool Status and Location

Status Condition Status Date Location User Type

Ready for Issue? ☐ Kit # Employee

Toolroom Information

Toolroom Default Bin

Owner Renew Tool Issues? ☐ More Details? Toolroom Total

Manufacturer Qty Available

Part Number Model Tool Cost

Alternate Tool Items

Tool Number	Description

Scheduled Calibration Scheduled Inspection Required Licenses HHT Program

QUERY

Tool Catalog. Use the Tool Catalog tab to enter, display, and update information on each inventory tool and associated toolroom. This application has several viewing modes controlled by the filters set using the Setup menu options. These options include only looking at tool data that is the same for all toolrooms or to include information specific to a toolroom. Special toolbar buttons enable the user to search for a tool by manufacturer's part number, adjust the balance of a bulk tool, adjust the cost of a tool, and transfer tools between bins.

The Action Menu allows the user to perform such functions as viewing on-order quantities for Tool Requests and Purchase Orders, viewing tool availability in other toolrooms, adjusting Category ID balances, adjusting physical counts, reconciling balances, and creating toolrooms.

Note: Tool records are automatically created for Kits and Category IDs. These types of tool records should not be updated using this application. Instead they should be updated from the Tool Kit or Tool Category ID Maintenance applications.

Tab Customizations:

The following changes were made to the pull-down menus:

- Renamed Inventory to Master Tool Inventory and renamed Adjust Current Balance to Category Balance Adjustment.
- Hid Issue and Transfer Current Item, Move/Modify Equipment, Adjust Standard Cost, Adjust Average Cost, Change Capitalized Costs, Add Item to Storeroom, Item Specifications, and Inventory Extra Window.

The following changes were made to the Toolbar:

- Added Part # Search button.
- Added Adjust Balance button.
- Added Adjust Cost button.
- Added Bin Transfer button (only used on the Toolroom Tab).

The following changes were made to the Tabs:

- Renamed Item Catalog to Tool Catalog and Storeroom to Toolroom.
- Hid the Where Used Tab.

The following fields were renamed:

- Capitalized to Licenses?, Inspection Required to Ready for Issue?, Catalog Code to Part Number, Part Number to Model Number, Balance to Toolroom Total.

FEM Settings:

The following Hyperlinks were created:

- Category ID displays a selection list from the Tool Category ID Maintenance application.
- Manufacturer displays a selection list from the Companies application.
- Scheduled Inspection push button launches to the Scheduled Tool Inspection application.
- Required Licenses push button launches to the Tool Licenses application.
- Bin Transfer push button (used on the Toolroom Tab) launches the Bin to Bin dialog box.
- HHT Program push button launches the FEM Inventory HHT application.
- Scheduled Inspection push button launches the Scheduled Tool Inspection application.
- Scheduled Calibration push button launches the Scheduled Tool Calibration application.
- Adjust Balance toolbar button launches the Adjust Current Balance application.
- Adjust Cost toolbar button launches the Adjust Tool Cost application.
- Part # Search toolbar button launches the Inventory Part#, Model#, and Storeroom Search dialog box.
- The Detail Button on the More Details? field launches the Tool Extra Details application.

The following DLL Validation entries were created:

- Allowable Characters on Tool Number (ALN,./@&-).
- Autopopulate On Field FSN from Tool Category ID Maintenance.
- Autopopulate On Field Tool Type from Tool Category ID Maintenance.
- Autopopulate On Field Time Limit (Days) from Tool Category ID Maintenance.

- Autopopulate On Field Tool Cost from Tool Category ID Maintenance.
- Autopopulate On Field Manufacturer from Tool Category ID Maintenance.
- Read Only on Query Employee.
- Read Only on Query Employee (Name).
- Read Only on Query Acquisition Date.
- Read Only on Query Status Date.
- Read Only on Query Kit Number.
- Read Only on Query Location.
- Required Acquisition Date.
- Required Tool (Description).
- Required Tool Type.
- Required Category ID.
- Required Status Condition.
- Required Federal Stock Number.
- Required Owner.
- Required Toolroom.
- Required Bin on Tool Catalog Tab and Toolroom Tab
- Validate Category ID against the Tool Category ID Maintenance application.
- Validate Manufacturer against the Companies application.

The following fields have Default Values:

- Ready for Issue? defaults to 'N'.
- Acquisition Date defaults to the current system date.
- Status Date defaults to the current system date.
- Status Condition defaults to 'OK'.
- Toolroom Total defaults to '1'.
- Renew Tool Issues? defaults to 'Y'.
- User Type defaults to 'TOOL'.

The following Value Lists (and supported fields) were created:

- TOOLTYPE for Tool Type field.
- REASON for Status Condition field.
- TOOLORG for Owner field.

The following changes were made to the Overview dialog box:

- Tool ID (cKey), Category ID (c2), Description (c1), Ready For Issue? (c3), Location (c4), Status / Condition (c5), Employee # (c6), Manufacturer (c7), Model # (c8), Serial # (c9), Tool Issue Limit (c10), Kit Number (c11), Tool Type (c13).

The following fields are non-editable:

- User Type, Kit #.

Program Customizations:

MAXCUST.DLL modifications:

- ‘ToolInv.cpp’ was created to:
 - Prevent a Calibrated, Modified, or Serialized tool from being created with a quantity greater than one.
 - Automatically fill in the Owner, Tool Cost, and Manufacturer information when the Toolroom is entered.
 - Default Licenses? to ‘N’.
 - If a tool record is deleted, delete the Tool License records for the tool and tool license records for the Kit that the tool belongs to.
 - Make Category ID required for all tool records except those tool records for Kits and Category IDs.
 - If the tool is set to inactive status clear the Calibration and Inspection Due Date for the tool on the Calibration and Inspection screens.
- “AdjustCurrentBalance.cpp” was created to:
 - Verify the user has access to the Toolroom.
 - Allow the user to launch the Adjust Current Tool Balances application from the Master Tool Inventory application when the user clicks the Adjust Balances toolbar button on the Master Tool Inventory screen.
 - When the user clicks the Insert button in the Adjust Current Tool Balances application, a password dialog box is displayed.
 - After a successful login, populate the Tool Number, Toolroom, and Bin Number.
- “ChangeStandardCost.cpp” was created to:
 - Verify the user has access to the Toolroom.
 - Allow the user to launch the Adjust Tool Cost application from the Master Tool Inventory application when the user clicks the Adjust Cost toolbar button on the Master Tool Inventory screen.
 - When the user clicks the Insert button in the Adjust Tool Cost application, a password dialog box is displayed.
 - After a successful login, populate the Tool Number, Tool Description and Cost.

- “PartNbrSearch.cpp” was created to:
 - Display Inventory Part#, Model#, and Storeroom Search dialog box when the Part # Search toolbar button is pressed.
 - Allow the user to search for tools by Part Number or Model number.
 - Display all matches for the search criteria in a grid so the user can pick one.

The following changes were made to database triggers and procedures:

- ITEM_T database trigger was modified to do the following:
 - If the Status, Status Date or Ready For Issue? fields change on a tool record for a kit, this trigger updates the TOOLKIT record with the corresponding data. If the Kit is being checked out, the Employee Number and Name are also copied to the TOOLKIT record.
 - If the Tool Status is changed to ‘INACTIVE’, the trigger sets Ready for Issue? = ‘N’ and sets Status Date = sysdate.
 - If a tool is being checked in with a Status Condition of ‘OK’ but was ‘CAL DUE’ or ‘INSP DUE’ before, the trigger resets the Tool Status back to ‘CAL DUE’ or ‘INSP DUE’ and sets Ready for Issue? = ‘N’.
 - If the Category ID is changed, the trigger updates the Kit Template lines, Kit Lines, Lost, Found, and Damages Tools, and Material Receipts Transaction records with the new Tool Number and Category ID. The trigger also deletes all Licenses attached to the new Tool Number.
 - If a new Category Tool record is being added or the Category ID changes, the trigger creates new Tool License records for the new Category ID. The trigger also sets the Tool License flag = ‘Y’ if Tool License records were created or to ‘N’ if no Tool License records were deleted.
 - If the Tool Description is changed, the trigger inserts a record into the Update Description table (UPDTDESC) so the UPDTDESC_T trigger can update the description in the FEM tables.
- ITEM_TR_STMT this statement level trigger was created to:
 - The ITEM trigger places an interim record in the UPDTDESC table. This statement-level trigger creates a cursor to hold all of the records in the UPDTDESC table in which the 'PROCESSED' flag is set to 'N', then performs global updates to the DESCRIPTION fields of the related records in the database, setting the 'PROCESSED' flag to 'Y' as it completes the updates for each individual cursor record. After closing the cursor, the trigger then deletes all of the records from the UPDTDESC table having 'PROCESSED' flag set to 'Y'.
 - Tables updated: TOOLCAL, TOOLINSP, ISSUGRID, KITLINE, LFDTOOLS, MATRETRANS, MATUSETRANS, SPCLGRID, TKLINES, TOOLQUAL, and TOOLREPR.

- INVENTORY_T Database trigger. This trigger performs several actions based on what data is being changed in the Inventory table.
 - Creates a 'LASTCOSTADJ' INVTRANS record if the Last Cost is being changed.
 - Creates a 'STOCKLEVELADJ' INVTRANS record if the MAXLEVEL is being changed.
 - Updates the Order Unit on the following tables if the Order Unit is changed: PRLINE (open TRs only), POLINE (open POs only), REORDER, QUOTATIONLINE, RFQLINE, MRLINE, REORDERPAD.

Master Tool Inventory – Toolroom Tab

[illegible]

Toolroom Tab. Tool records can be kept in one or more toolroom locations. Each tool/toolroom combination has its own bin(s), current balance, physical count, last physical count date, and reconciled date. The Toolroom tab displays information about the tool at the specified toolroom location. If the tool exists or has existed at other locations, a red dot appears in the upper right hand corner of the Toolroom field.

Tools can be in a variety of bins. The default bin will be used as the first choice when checking out tools. There are also several specialty bins to be used for special purposes. These include RECEIVING, WORN, BROKEN, REPAIR, and WARRANTY.

The Bin Transfer toolbar button is active on this tab. Select a row in the Balances grid to pick the From Bin and then press the Bin Transfer toolbar button. The user can then enter the To Bin and execute the transfer. The Toolroom screen will need to be refreshed to see the changes in Bin Current Balances.

Tab Customizations:

The following fields were renamed:

- Current Balance to Toolroom Total.
- Available Balance to Qty Available.

The following field were hidden:

- Reserved Balance, Expired Balance, Category, Reorder Point, Safety Stock, Stock Level.
- In the Balances grid: Lot, Shelf Life, Expiration Date, Manufacturer's Lot, Vendor, Manufacturer.

FEM Settings:

None.

Program Customizations:

MAXCUST.DLL modifications:

- “BinTransfer.cpp” was created to:
 - Verify the user has access to the Toolroom.
 - Make sure the user selected a bin to transfer from.
 - Display the Bin to Bin Transfer dialog box.
 - Autopopulate the Tool Number, Toolroom, From Bin Number, and From Bin Quantity.
 - Allow the user to select a To Bin and Quantity to transfer, and enter remarks.
 - Adjust the balances in the To and From Bins and create an Inventory Transaction (BINTRANS) record to record the transfer when the Ok button is pressed.

The following changes were made to database triggers and procedures:

- INVBALANCES_T Database trigger was modified to:
 - Each time a balance is changed in a specialty bin ('REPAIR', 'BROKEN', 'WORN', 'WARRANTY'), create/update an INVRESERVE record so these quantities will not be considered part of the available quantity.

Master Tool Inventory – Reorder Details Tab

Master Tool Inventory

File Edit View Actions Insert Navigate Setup Help

How Do I...? Part # Search Adjust Balance Adjust Cost Bin Transfer

Tool Catalog Toolroom **Reorder Details** Transactions Specification Linked Documents

Tool Number

Toolroom

Reorder Details

Reorder Point Lead Time (Days) Issue Units

Safety Stock Economic Order Quantity Order Units

Stock Level Unit Conversion

Vendors

Primary Vendor Model #

Manufacturer Part #

Vendor	Manufacturer	Part #	Model #	Promised Lead Time (Days)	Bid Price	Date Bid Received	Last Price

QUERY

Reorder Details Tab. Use the Reorder Details tab to reorder tools. This tab also provides detailed information on vendors associated with a particular tool. You can enter or view reorder details, such as Reorder Point (ROP), Lead-Time, or Issue Units. During the reorder process, FEM checks the current or selected tool in inventory to see if it should be reordered. If a tool should be reordered, FEM creates a purchase order or purchase requisition line item for it. FEM will use the primary vendor of the tool/location when creating the purchase requisition or purchase order.

Tab Customizations:

None.

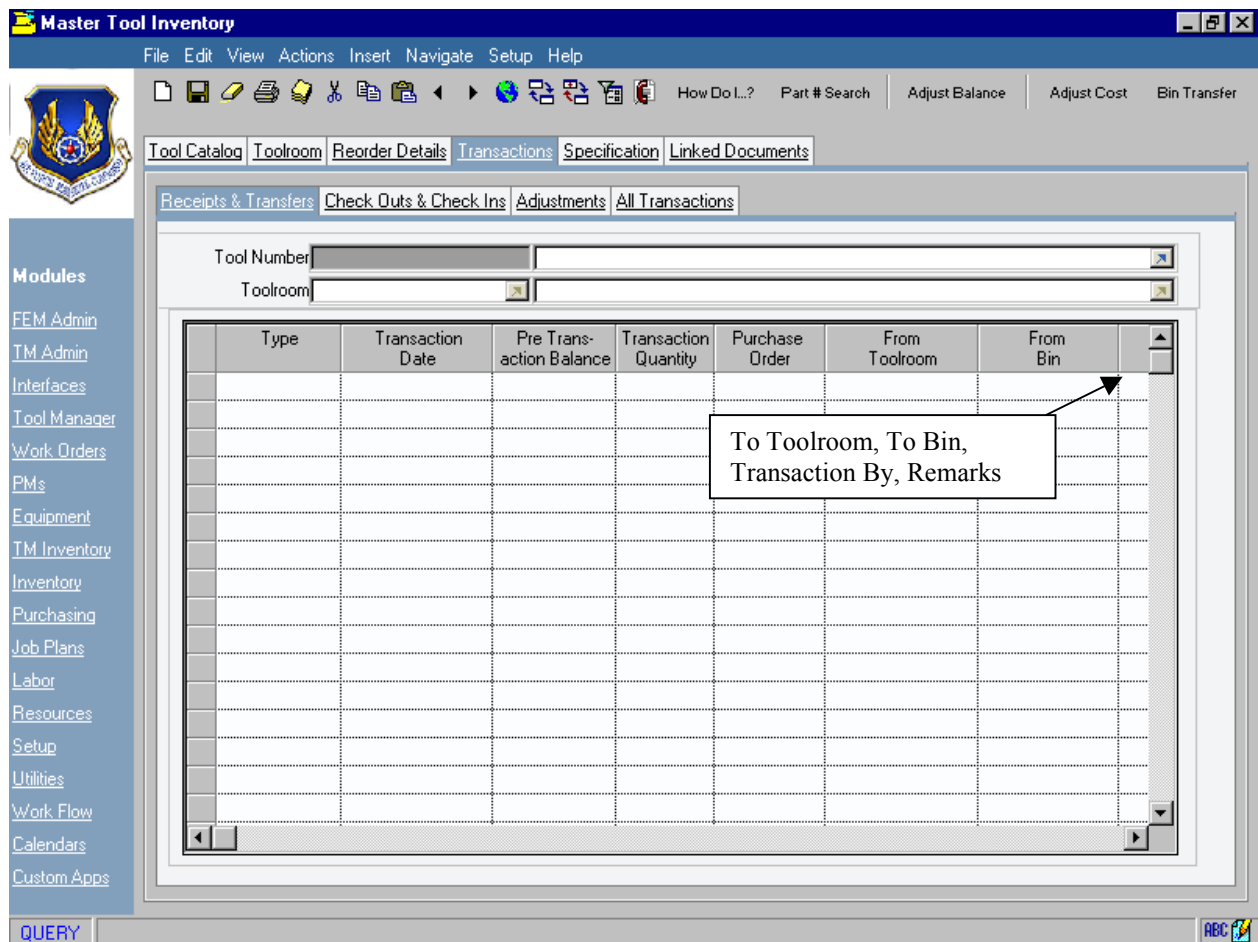
FEM Settings:

None.

Program Customizations:

None.

Master Tool Inventory – Transactions Tab – Receipts & Transfers Subtab



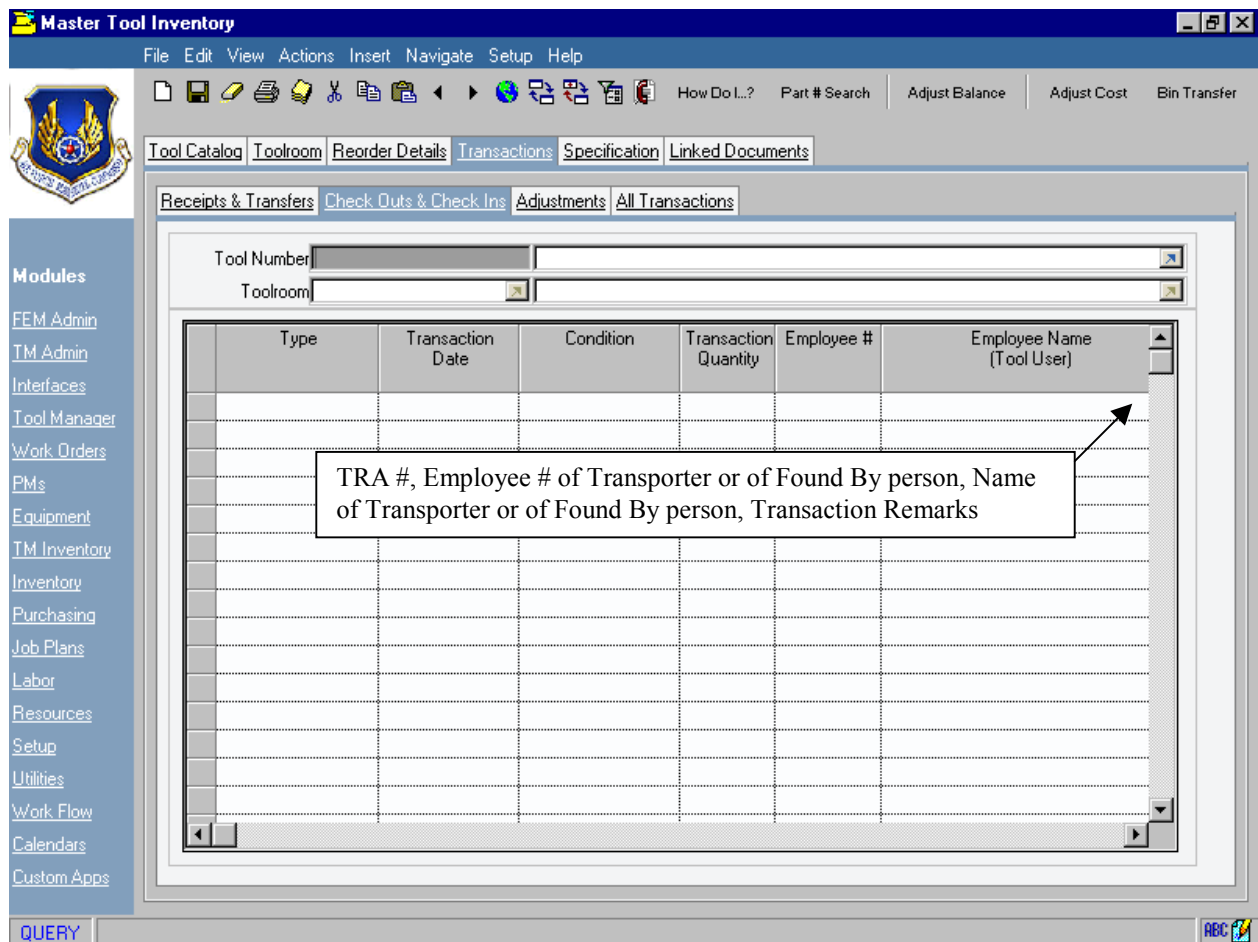
Receipt and Transfers Subtab. Use the Receipts & Transfers subtab to view inventory transactions of material receipts. To see all the details of an inventory transaction, scroll horizontally on the table window. The data FEM displays for a transaction will vary with the kind of transaction. Many of the fields on the table are likely to be blank either because no such data was entered at the time of the transaction or the fields do not apply to the particular type of transaction being displayed.

Tab Customizations: None.

FEM Settings: None.

Program Customizations: None.

Master Tool Inventory – Transactions Tab – Check Outs & Check Ins Subtab



Check Outs & Check Ins Subtab. Use the Check Outs & Check Ins subtab to view inventory transactions of material usage. To see all the details of an inventory transaction, scroll horizontally on the table window. The data FEM displays for a transaction will vary with the kind of transaction. Many of the fields on the table window are likely to be blank either because no such data was entered at the time of the transaction or the fields do not apply to the particular type of transaction being displayed.

Tab Customizations:

The following changes were made to the Tab:

- Renamed Issues & Returns to Check Outs & Check Ins.

FEM Settings: None.

Program Customizations: None.

Master Tool Inventory – Transactions Tab – Adjustments Subtab

The screenshot displays the 'Master Tool Inventory' application window. The title bar reads 'Master Tool Inventory'. The menu bar includes 'File', 'Edit', 'View', 'Actions', 'Insert', 'Navigate', 'Setup', and 'Help'. Below the menu bar is a toolbar with various icons. A secondary toolbar contains 'How Do I...?', 'Part # Search', 'Adjust Balance', 'Adjust Cost', and 'Bin Transfer'. The main navigation pane on the left lists 'Modules' with links to 'FEM Admin', 'TM Admin', 'Interfaces', 'Tool Manager', 'Work Orders', 'PMs', 'Equipment', 'TM Inventory', 'Inventory', 'Purchasing', 'Job Plans', 'Labor', 'Resources', 'Setup', 'Utilities', 'Work Flow', 'Calendars', and 'Custom Apps'. The main content area shows the 'Transactions' tab selected, with the 'Adjustments' subtab active. Above the table are input fields for 'Tool Number' and 'Toolroom'. The table has columns: 'Transaction Type', 'Transaction Date', 'Bin', 'Pre Transaction Balance', 'Transaction Quantity', 'Old Cost', and 'New Cost'. A callout box labeled 'Transaction By, Remarks' points to the right side of the table. The status bar at the bottom shows 'QUERY' and a small icon.

Adjustment Subtab. Use the Adjustments subtab to view inventory transactions of adjustments. To see all the details of an inventory transaction, scroll horizontally on the table window. The data FEM displays for a transaction will vary with the kind of transaction. Many of the fields on the table window are likely to be blank either because no such data was entered at the time of the transaction or the fields do not apply to the particular class and/or type of transaction being displayed.

Tab Customizations:

None.

FEM Settings:

None.

Program Customizations:

None.

Master Tool Inventory – Transactions Tab – All Transactions Subtab

The screenshot shows the 'Master Tool Inventory' application window. The title bar includes standard window controls. The menu bar contains: File, Edit, View, Actions, Insert, Navigate, Setup, Help. The toolbar includes icons for file operations and a 'Part # Search' button. Below the toolbar are tabs: Tool Catalog, Toolroom, Reorder Details, Transactions (selected), Specification, and Linked Documents. Under the 'Transactions' tab, there are sub-tabs: Receipts & Transfers, Check Outs & Check Ins, Adjustments, and All Transactions (selected). On the left, a 'Modules' sidebar lists various functions like FEM Admin, TM Admin, etc. The main area displays a table with columns: Type, Date, Transaction Class, PreTransaction Balance, Transaction Quantity, Purchase Order, and From Toolroom. A tooltip points to the 'From Toolroom' column with the text: 'From Bin, To Toolroom Total, To Bin, Unit Cost, New Cost, Old Cost, Line Cost, Transaction By, Remarks'. At the bottom left is a 'QUERY' button and at the bottom right is an 'ABC' icon.

All Transactions Subtab. Use the All Transactions subtab to view all three types of inventory transactions. To see all the details of an inventory transaction, scroll horizontally on the table window. The data FEM displays for a transaction will vary with the kind of transaction. Many of the fields on the table window are likely to be blank either because no such data was entered at the time of the transaction or the fields do not apply to the particular type of transaction being displayed.

Tab Customizations:

None.

FEM Settings:

None.

Program Customizations:

None.

Master Tool Inventory – Specification Tab

[illegible]

Specification Tab. Use the Specification tab to associate a specific tool record to an asset specification template. You can also use this tab to view information about a tool, such as its attributes. FEM uses the current tool number to locate any corresponding specification template for the tool.

Tab Customizations:

None.

FEM Settings:

None.

Program Customizations:

None.

Adjust Current Tool Balance – Main Tab

Adjust Current Tool Balance

File Edit View Actions Insert Navigate Setup Help

Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

Tool Number

Toolroom Bin Current Bin Balance New Bin Balance

Adjustment Reason

Remarks

Changed By Changed Date

QUERY

RBC

Main Tab: This custom application provides the user with a single screen entry point to update the current balance of a tool within a toolroom's inventory. This application requires the user to enter a User ID and Password when a record is inserted. This functionality applies only to bulk, expendable, and consumable type tools.

This application can be accessed two ways:

- Using the Adjust Current Balance toolbar button in the Master Tool Inventory Application. With this method the Tool Number, Tool Description, Tool Room, (Default) Bin, and Current Bin Balance will automatically populate after the user enters their User ID and Password.
- Selecting the Adjust Current Balance application from the TM Inventory Module menu. With this method the user must enter the Tool Number, Tool Room, Bin, and New Bin Balance after the user enters their User ID and Password.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Adjust Current Tool Balance.
- Hid on Insert menu, Insert with Autonumber; on Navigate menu, Return with Selection and Return with Selection & Exit options; on Help menu, Visit us on the Web.

The following changes have been made to the Toolbar:

- Hid Return, Return with Selection, and New toolbar buttons.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays selection list from the Master Tool Inventory application.
- Toolroom displays a selection list from the Operating Locations application.

The following DLL Validations were created:

- Allowable Characters for New Bin Balance field (0123456789).
- Autopopulate Tool Number (Description) from ITEM where TOOLNUM = ITEMNUM.
- Autopopulate on Field Current Bin Balance from the INVBALANCES.CURBAL where ITEMNUM = Tool Number, LOCATION = Toolroom, and BINNUM = Bin.
- Set to Required and Read Only on Query Bin.
- Read Only on Query Remarks.
- Set to Required and Read Only on Query New Balance.
- Set Reason to Required.
- Validate Tool Number against ITEM.ITEMNUM and set to Read Only on Query.
- Validate Toolroom against LOCATION.LOCATIONS and set to Read Only on Query.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Tool Number (c2), Toolroom (c3), Bin (c4), Current Balance (c5), New Balance (c6) Changed By (c7), Changed Date (c8), Remarks (c1).

The following fields were set to Read Only:

- Tool Number (Description), Current Balance, Changed By, and Changed Date.

The following field default was built:

- Changed Date defaults to the current date.

Program Customizations:

MAXCUST.DLL modifications:

- “ToolCBal.cpp” was created to:
 - Call the code that displays the User ID and Password dialog box.
 - Verify if the User ID entered has access to the specified Toolroom.
 - Populate the Changed By field with the user’s labor code.
 - Ensure that only tool numbers for Bulk tools, Consumable tools, Expendable tools, Safety Tools, and Tool Sets can be entered.
 - Display a list of valid bin numbers for the tool number.
 - Display the Current Balance of the Bin number selected.
 - Only allow entry of valid Bin numbers.
- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.

TOOLCBAL_T Database trigger was modified to:

- Only update Bulk tools, Consumable tools, Expendable tools, Safety tools, and Tool Sets.
- Create an inventory record for the tool in the tool room being adjusted if one does not exist. The trigger also creates a “INSERTITEM” Inventory transaction record to document the records creation.
- If an Inventory Balance record does not exist for the Bin, a record is created.
- If an Inventory Balance record does exist, the Current Balance, Physical Count, and Bin Number are updated.
- Create a ‘CURBALADJ’ Inventory transaction record to document the balance adjustment.

Adjust Tool Cost – Main Tab

The screenshot shows the 'Adjust Tool Cost' application window. The window has a menu bar (File, Edit, View, Actions, Insert, Navigate, Setup, Help) and a toolbar with icons for file operations and navigation. A sidebar on the left contains a 'Modules' list with links: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. The main area is titled 'Main' and contains a form with fields: Record Key, Tool Number, Current Cost, New Cost, Remarks, Changed By, and Changed Date. The bottom status bar shows 'QUERY' and a small icon.

Main Tab: This application allows a single screen entry point to update the cost associated with a tool. This application requires the user to enter a User ID and Password when a record is inserted.

This application can be accessed two ways:

- Using the Adjust Cost toolbar button on the Master Tool Inventory Application. With this method the Tool Number, Tool Description, and Current Cost will automatically populate after the user enters their User ID and Password.
- Selecting the Adjust Cost application from the TM Inventory Module menu. With this method the user must enter the Tool Number.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Change Standard Tool Cost.
- Hid on Insert menu, New Record; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return and Return with Selection and New toolbar buttons.

FEM Settings:

The following DLL Validation entries were created:

- Autopopulate on Field Tool (Description) from ITEM.
- Autopopulate on Field Current Cost from ITEM.
- Set to Required and Read Only on Query Remarks.
- Set to Required and Read Only on Query New Cost.
- Validate Tool Number against ITEM.ITEMNUM and set to Read Only on Query.

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Tool Number (c2), Description (c3), Current Cost (c4), New Cost (c5), Changed By (c6), Changed Date (c7), Remarks (c1).

The following fields were set to Read Only:

- Changed By and Changed Date.

The following default values were built:

- Changed Date.

Program Customizations:

MAXCUST.DLL modifications:

- “ToolCost.cpp” was created to:
 - Call the code that displays the User ID and Password dialog box.
 - Verify if the User ID entered has access to the specified Toolroom.
 - Populate the Changed By field with the user’s labor code.
- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.

TOOLCOST_T Database trigger was modified to:

- Update the Tool Cost and Tool Line Cost in the following tables: INVENTORY (STDCOST, LASTCOST), ITEM (Last Cost), ISSUGRID (UNITCOST, LINECOST), TKLINES (UNITCOST, LINECOST), KITLINES (UNITCOST, LINECOST), TOOLREPR (REPLACEMENTCOST).
- Create a ‘STDCSTADJ’ Inventory Transaction record for each Tool / Tool Room combination updated.

Bulk Tool Repair – Main Tab

Bulk Tool Repair

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

Tool Information

Tool Number Under Warranty? ☐

Category ID

Manufacturer

Shipping Data

Shipping Number Organization Total Quantity Returned

From Toolroom From Bin Quantity Shipped

To Repair Vendor

Shipped By Shipped Date

Receiving Data

Quantity Returned OK Quantity Returned Scrapped

Invoiced Repair Cost Invoiced Scrapped Cost

Record Modification Data

Remarks

Changed By Changed Date

QUERY

Main Tab: The Bulk Tool Repair application is used to track the costs associated with the repair of Bulk Tools. Tools identified as in need of repair are eventually sent to a repair facility. This could be an in-house organization or, in the case of tools under a vendor or manufacturers' warranty, an off-site location. This application creates an audit trail for those tools that are 'temporarily' out of the tool environment and have been sent for repair. It also tracks the same tools (by shipping number) that have been returned by the vendor and their associated repair costs. The Bulk Utilization application provides an on-going summary analysis of the breakdown of these costs as they are associated with the Tool, Toolroom, Organization, and Time Period and can be reviewed using the Bulk Utilization application.

Tool balances in the appropriate "REPAIR" bin are decremented when tools are shipped out for repair. Likewise, the balances are incremented by the quantity returned in "OK" condition.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Bulk Tool Repair.
- Hid on Help menu, Visit us on the Web.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.
- Shipped By displays a selection list from the Tool Employee ID Management application.
- Repair Vendor displays a selection list from the Companies application.
- To / From Toolrooms display a selection list from the Operating Locations application.

The following DLL Validations were created:

- Autopopulate on Field and Read Only Tool Number Description.
- Autopopulate on Field and Read Only Category ID.
- Autopopulate on Field of Category ID Description.
- Autopopulate on Field and Read Only Manufacturer.
- Autopopulate on Field and Read Only Manufacturer Name.
- Autopopulate on Field and Read Only Under Warranty.
- Autopopulate on Field and Read Only Organization.
- Autopopulate Changed By with the current User ID.
- Autopopulate Changed Date with the system date.
- Autopopulate To Repair Vendor Name.
- Set to Read Only on Query all fields in the Shipping Data Frame.
- Set to Read Only on Query Tool Number.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Tool Number (c2), Description (c3).

The following fields are non-editable:

- Changed By and Changed Date.

The following Value List (and supported field) was created:

- TOOLORG value list for the Organization field.

Program Customizations:

MAXCUST.DLL modifications:

- “Bulkrepr.cpp” was created to:
 - Ensure that only bulk tools are eligible on this application.
 - Ensure that the Bin Number is valid for the Toolroom.
 - Ensure that Quantity Shipped does not exceed that from the selected Bin.
 - Ensure that the Quantity Returned does not exceed Quantity Shipped.
 - Ensure that each Cost has an associated Quantity.

BULKREPR_T database trigger was modified to:

- If a Record is being inserted:
 - Decrement the quantity from the appropriate Toolroom’s “REPAIR” bin.
 - Create a “TRANSFER” MATRECTRANS record and a “CURBALADJ” INVTRANS record to document the move.
 - Create a Bulk Utilization record.
- If a Record is being updated:
 - Increment the quantity in the “RECEIVING” bin by the quantity received in “OK” status.
 - Create a “RECEIPT” MATRECTRANS record and a “CURBALADJ” INVTRANS record to document the move.
 - Create a Bulk Utilization record.
 - Update the Total Quantity Returned based on the values in the Quantity Returned as “OK” and Quantity Returned as “SCRAPPED”.
 - Clear the values in the Quantity Returned OK, Quantity Returned Scrapped, Invoiced Repair Cost, and Invoiced Scrapped Cost.
 - Set the Record Closed flag on the Bulk Repair record to “Y” if the Total Quantity Returned equals the Quantity Shipped.

Bulk Tool Utilization – Main Tab

Main Tab: This application displays summary repair cost information collected from the Bulk Tool Repair application. A user can view all repair costs associated with a tool or can restrict the costs to a particular Toolroom, Organization, or specific time period.

The user enters filter criteria, then selects the Execute Query toolbar button. Any records matching the criteria will be identified with their quantities and costs summarized and averaged, accordingly. This is a read only application with the results of each query displayed on the screen. Between queries, the user needs to ensure that the previous query elements (filters) have been removed through the use of the Clear button. After the execution of each query, a message will display that the query execution is complete.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Bulk Tool Utilization.
- Hid menu, Insert options, Save, Previous/Next Record, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid the Overview, Save, New, and Find toolbar buttons.
- Added Execute Query toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.
- Toolroom displays a selection list from the Operating Locations application.
- Organization displays a selection list from the Organizations application.

The following DLL Validations were created:

- Autopopulate and set to Read Only on Query Tool Number Description field.

Program Customizations:

MAXCUST.DLL modifications:

- “Bulkrepr.cpp” was created to compute the following values from the BULKUTIL table based upon filter criteria:
 - Total Sent To Repair.
 - Total Returned From Repair.
 - Quantity Returned OK.
 - Total Repair Cost.
 - Average Repair Cost.
 - Quantity Returned Scrapped.
 - Total Scrapped Cost.
 - Average Scrapped Cost.

Employee to Employee Transfer – Main Tab

[illegible]

Main Tab: This application provides a direct method to transfer checked out tools from one individual to another. When the record is processed, the tools will be automatically checked in for the person identified by the From Employee # and checked out to the person identified by the To Employee #.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Employee to Employeee.
- Hid on Insert menu, New Record; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Print WO, Return and Return with Selection, Select All and New toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Toolroom displays a selection list from the Operating Locations application.
- To Employee displays a selection list from the Tool Employee ID Management application.
- From Employee displays a selection list from the Tool Employee ID Management application.

The following DLL Validation entries were created:

- Autopopulate on Field To Employee # Name.
- Autopopulate on Field From Employee # Name.
- Read Only on Query Remarks.
- Read Only on Query To Employee #.
- Read Only on Query From Employee #.
- Read Only on Query Tool Type.
- Read Only on Query Issue Type.
- Validate, Read Only, and Required Toolroom.

The following Value Lists (and supported fields) were created:

- TOOLTYPE for Tool Type field.
- TOOLISSUETYPE for Issue Type field.

The following changes were made to the Overview dialog box:

- Record Key, From Employee #, Name, To Employee #, Name, Tool Type, Tool Issue Type, Changed By, Changed Date, Remarks.

The following FEM Variables exist:

- TRANSKITNKIT – If No, prohibits Employee to Employee Transfer of Kits within Kits.
- ALLOWDELTRAN – If No, prohibits Employee to Employee Transfer of Delinquent Tools.

Program Customizations:

MAXCUST.DLL modifications:

- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.

- “BadgTran.CPP” is called when the user inserts a new record. It was created to:
 - Call the UserLogin application and then if the user entered a valid username/password combination, it populates the 'Modified By' field with the user's labor code.
 - Check the To Employee to ensure that employee is authorized to check out tools. (Must be employee record type.)
 - Check to see if the To Employee's departure date has been reached.
 - Check the From Employee to make sure the employee does not have delinquent tools.
 - Ensure the To and From Employee's are not the same.
 - Ensure the User has access to the Toolroom.
- “BadgeTransferDialog.cpp” was created to:
 - Ensure the Screen is in “Insert” mode before allowing the user to enter data in the Grid.
 - Ensure the To Employee is authorized to checkout tools.
 - Display and manipulate the “Select Tools to Transfer” Grid.
 - Populate the Grid with the Tools currently checked out by the From Employee.
 - Allow the user to make selected row in the grid.
 - Allow the user to select all rows when the “Select All” button is pushed.
 - Transfer selected tools to the To Employee.
 - Only allow Transfer of Tools issue from current Toolroom.
 - Delinquent tools cannot be transferred unless FEM Variable is set.
 - Shift Issues cannot be transferred
 - Employee must have appropriate licenses
 - Display error message for any tool that cannot be transferred.
 - Flags tools that cannot be transferred using ISSUGRID14 field in the ISSUGRID table. (The BADGTRAN_T database trigger uses this field if Select All button is used.)
 - Creates ISSUGRID records to show tools now issued to another employee.
 - Deletes ISSUGRID record for the From Employee.
 - Updates ISSUGRID record for the From Employee if the entire tool quantity is not transferred.
 - Updates any selected kit records to show kit is now issued to another employee.
 - Updates Tool Item record to show Unique tool is now issued to another employee.
 - Updates the Employees' labor record to indicate how many tools the employees have checked out.
 - Creates “BADGTRAN” MATUSETRANS records to document the transfer of tools from the old employee to the new employee.
 - Re-calculates new due dates for transferred tools.
 - Updates Tool Inspection due date if tool is identified to be inspected after issue.

- Create Tool Reports records to document all transaction taken.
- Calls SQR and Executes the BDGTRANS report.
- Calls the SQR Viewer to display the report.

BADGTRAN_T Database trigger was modified to:

- Ensure the employee has the correct qualifications before a tool can be transferred.
- Change the Employee Number on the ISSUGRID table to the Employee Number of the employee receiving the tools.
- Create “BADGTRAN” transactions in the MATUSETRANS table to document the ‘Transfer From’ and ‘Transfer To’ actions.
- Insert a record into the TOOLRPTS table so a report of the transaction can be automatically printed.
- Update each Employee’s labor record to indicate the number of tools the employee has checked out.
- Update the ITEM record with the new employee number if the Tool transferred is a unique tool.
- Update the KIT record with the new employee number if the Tool transferred is a kit.

The Following Reports were created:

- MASSBDG.SQT – This is a manually executed report to print a listing of all tools transferred when using the Select All option.
- BDGTRANS.SQT – This is an automatically executed report that prints a listing of all tools transferred when transferring only selected tools.

Return Found Tool – Main Tab

Main Tab: This application is designed to provide the user with a single screen entry point to return tools that have been found. The tools may have been lost, stolen, or checked out to an employee. This application provides the user with the ability to enter the tool number of the item being returned and the system will automatically update the appropriate tables to place the tools back into the available inventory. The system will clear any check out records to return a checked out tool or credit organization charges for a tool previously reported as lost or stolen, as appropriate.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Return Found Tool.
- Hid on Edit menu Set Linked Document Version; on Insert menu, New Record; on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return, Return with Selection, and New toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays a selection list from the Master Tool Inventory application.
- Toolroom displays a selection list from the Operating Locations application.
- Returned By displays a selection list from the Tool Employee ID Management application.

The following DLL Validation entries were created:

- Autopopulate on Field Losing Organization from Lost, Found, Broken Tools.
- Autopopulate on Field Returned By (Name) from Labor and make Read Only on Query.
- Autopopulate on Field Status Reason from Item.
- Autopopulate on Field Checked Out To from Item.
- Autopopulate on Field Checked Out To (Name) from Item.
- Autopopulate on Field Kit Number from Item.
- Autopopulate on Field Location from Item.
- Autopopulate on Field Losing Employee # from Item.
- Autopopulate on Field Losing Employee # (Name) from Item.
- Autopopulate on Field Tool Number (Description) from Item.
- Make Read Only on Query Remarks.
- Make Read Only on Query Tool Number and Description.
- Make Read Only on Query Returned By and Name.
- Make Read Only on Query Toolroom.
- Make Read Only on Query Control #.
- Make Read Only on Query Returned Condition.
- Make Read Only on Query Returned Quantity.
- Validate Tool Number against Item.
- Validate Location against Operating Locations.

The following fields have Default Values:

- Return Condition defaults to 'OK'.
- Changed Date defaults to the system date.

The following Value List (and supported field) was created:

- RETURNCONDITION for Return Condition field.

The following changes were made to the Overview dialog box:

- Record Key (cKey), Tool Number (c2), Toolroom (c3), Returned By Employee # (c9), Name (c10), Status Reason (c4), Checked Out To Employee # (c5), Name (c6), Kit Number (c7), Location (c8), Changed By (c11), Changed Date (c12), Remarks (c1).

The following fields are non-editable:

- Status Reason, Losing Organization, Losing Employee # (& Description), Checked Out To (Employee # & Name), Location, Changed By, Changed Date.

Program Customizations:

MAXCUST.DLL modifications:

- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.
- “Found.CPP” is called when the user inserts a new record. It was created to:
 - It calls the UserLogin application and then if the user entered a valid username/password combination.
 - It populates the 'Modified By' field with the user's labor code.
 - Ensures only Unique tool types are allowed to be entered.
 - Checks to see if the tool is Intransit. If so a message is displayed telling the user to process the transfer.
 - Updates the INVBALNCE table with quantity found. (OK is placed in the “RECEIVING” bin. REPAIR is placed in the “REPAIR” bin.)
 - Creates and “EXCHANGE” INVTRANS record to document the INVBALNCE update.

The FOUND_T database trigger was modified to:

- Trigger takes various action depending on the transaction:
 - Always removes the tool from ISSUGRID.
 - **Found:** Inserts records into the LFDTOOLS table to record the finding of a tool and removes the corresponding tool record from the ISSUEGRID. Updates the Found Tool Flag in the LFDTOOLS table for matching tools that were previously reported as ‘LOST’ or ‘STOLEN’.
 - **Lost or Stolen:** Deducts cost of tool from the kit that contains the tool by updating the TOOLKITS table and setting the KIT as not complete. The tool kit line is also updated to show adjusted costs quantity, and shortfall.
 - **Repair:** Updates ITEM table:
 - If condition is not ‘CAL-DUE, INSP-DUE, or ‘KITTED’ then sets Ready for Issue = ‘N’, Status Date = sysdate, Condition = ‘REPAIR’, Location = new tool room and clears Employee Number and Name.
 - If Condition is ‘CAL-DUE’ or ‘INSP=DUE’ then sets location = new tool room, clears Employee Number, Name, and Tool Kit Number.
 - If Condition is ‘KITTED’ then sets Ready for Issue = ‘N’, Status Date = sysdate, Condition = ‘REPAIR’, Location = new tool room and clears Employee Number, Name, and Tool Kit Number.
 - **OK:** Updates Item table:

- If condition is not 'CAL-DUE, INSP-DUE, or 'KITTED' then sets Ready for Issue = 'Y', Status Date = sysdate, Condition = 'OK', Location = new tool room and clears Employee Number and Name.
- If Condition is 'CAL-DUE' or 'INSP=DUE' then sets location = new tool room, clears Employee Number, Name, and Tool Kit Number.
- If Condition is 'KITTED' then sets Ready for Issue = 'Y', Status Date = sysdate, Condition = 'OK', Location = new tool room and clears Employee Number, Name, and Tool Kit Number.
- Updates the Inventory and Inventory Balance records for the tool:
 - Sets the Current Balance = 1 for the tool room the tool was checked into. Set Current Balance = 0 for all other tool rooms.
 - If tool does not exist in tool room then Inventory and Inventory Balance records are created.
 - Creates a MATUSETTRANS record for the transaction.
- Updated the FOUND record with the correct Bin Number based on Condition.
 - OK =>RECEIVING
 - REPAIR => REPAIR
 - BROKE N => BROKEN

Tool Check Out and Check In – Main Tab

[illegible]

Main Tab: This application is designed to provide the user with the ability to perform tool check out and check in functions, renew tools, exchange tools, perform replacement functions, report tools as lost or stolen, update kit information once shortages are filled, modify a tool's Issue Type after it has been issued, and enter Log Book type check out and check in transactions.

- The system must be in Insert mode before any transactions can be performed.
- A valid Toolroom and Employee must be entered. Instead of the Employee ID, a Kit ID, DMAPS ID, or PAC Code may be entered.
- Transporter is a required field if the Record Type is PROJ (Project) or ORG (Organization). It is not required if the Record Type is EMP (Employee).
- Prompt messages may appear to advise that the identified employee's tool kit has been modified or that replacement tools for the employee are available.

- The Transaction Log listing will list Tool Kits first, followed by tools that are delinquent (these will be bold), followed by the remaining tools listed in Due Date order.
- To enter Transaction Mode, click the Transaction toolbar button. The PIN dialog box will display and a valid Userid and Password will be required. At this time, the system will check to see if the user has authorization to the Toolroom.
- The system will check to determine whether the Employee is authorized to check out tools. If not, the Employee will only be allowed to check in tools.
- The system will check to determine whether the Employee has delinquent tools. If so, the system will check to see if the user and Employee have been granted the appropriate override through the Application Authorizations application. If the user and the Employee do not have a valid override, only Safety type tools can be checked out.
- The user will be authorized to perform various Actions. For each Action, a dialog box will display allowing for the identified tool to be processed. The dialog box and the performance of tool transactions for that Action type may continue until no additional tools have been identified and the dialog box is closed.
- Upon closure of a dialog box, the user will have the option to continue with additional Action types.
- When the Done button is clicked, the user will have the option to print a report showing the transactions just executed, to print a report showing the transactions just executed and a list of all tools currently issued to the employee, or to not print a report.

Note: FEM Variable PRINT_TOOL_RECEIPT will determine if the Print Dialog Box will be displayed.

- To search for a particular tool in the list of tools displayed in the Transaction Log, the user can utilize the Search function and search by Tool Number or Description. The list will scroll to the tool that matches and it will be displayed on the top row. The user can continue the search until no more matches are found. To search for tools within a kit or set, the kit or set must have been expanded so that the contents are listed in the Transaction Log. Searches may be done using an old tool number. The list will scroll to the new tool number and it will be displayed on the top row. The search by old tool number works only for the last time the number was changed.
- Tools must be checked in to the Toolroom from which they were issued. There is a FEM system variable (TKITTOOLROOM) that can be set to allow tool kits to be checked in to a toolroom other than the original issuing toolroom.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Check Out and Check In.
- Hid on File menu, Save; on Insert menu, Insert; on View menu, Record List; on Navigate menu, all Return options; and, on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return, Return with Selection, View List, and New toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.
- Added Transaction (Toolbar button1) and Log Book (Toolbar button3).

The following items were added:

- View Licenses button (pbUser1) and Master Tool Inventory button (pbUser2).

FEM Settings:

The following Hyperlinks were created:

- Toolroom displays a selection list from the Operating Locations application.
- Employee displays a selection list from the Tool Employee ID Management application.
- Transporter displays a selection list from the Tool Employee ID Management application.
- View Licenses button launches to the Employee Licenses application.
- Master Tool Inventory button launches to the Master Tool Inventory application.

The following DLL Validation entries were created:

- Autopopulate on Field Employees Name from Employee.
- Autopopulate on Field Supervisor from Employee.
- Autopopulate on Field Phone (Supervisor's phone) from Employee.
- Autopopulate on Field Org from Employee.
- Autopopulate on Field DMAPS ID from Employee.
- Autopopulate on Field PAC Code from Employee.
- Autopopulate on Field Labor Type from Employee.
- Autopopulate on field Record Type from Employee.
- Autopopulate on Field Transporter Name from Transporter.
- Autopopulate on Field Labor Type from PAC Code.
- Autopopulate on field Record Type from PAC Code.
- Autopopulate on Field Employee from PAC Code.
- Autopopulate on Field DMAPS ID from PAC Code.
- Autopopulate on Field Org from PAC Code.
- Autopopulate on Field Supervisor from PAC Code.
- Autopopulate on Field Phone (Supervisor's phone) from PAC Code.
- Autopopulate on Field Employees Name from PAC Code.

- Autopopulate on Field Labor Type from DMAPS ID.
- Autopopulate on Field Record Type from DMAPS ID.
- Autopopulate on Field Employee from DMAPS ID.
- Autopopulate on Field Employee Name from DMAPS ID.
- Autopopulate on Field PAC Code from DMAPS ID.
- Autopopulate on Field Org from DMAPS ID.
- Autopopulate on Field of Supervisor from DMAPS ID.
- Autopopulate on Field of Phone (Supervisor's phone) from DMAPS ID.
- Validate Employee from Labor.
- Validate Toolroom from Operating Locations.
- Validate Org from Companies.

The following FEM System Variables exist to support Check Out/Check In:

- BULKTOOLISSUETIME TM-Bulk Tool Issue Time Default Value in Days.
- CAL/INSP_DUE_DAYS TM-Message displays on Check out, this Number of days till a Calibration / Inspection is due on the Tool.
- CALIBRATEISSUETIME TM-Calibrated Tools Default Issue Time in Days.
- EXPENDBISSUETIME TM-Default Issue Time for Expendable Tools in Days.
- KEEP_PIN_USERID TM-Flag to indicate if the userid should be retained with regards to the PIN application
- KITISSUETIME TM-Kit Default Issue Time in Days.
- LOANERISSUEDAYS TM-Number of days that a Loaner Tool can be issued.
- MODTOOLISSUETIME TM-Modified Tool Default Issue Time in Days.
- PRINT_TOOL_RECEIPT TM - a Yes or No value to indicate if the Print Dialog box will be displayed on the Tool Check Out / Check In screen when the Done button is pushed.
- SAFETTOOLISSUETIME TM-Safety Tool Issue Time Default Value in Days.
- SERIALZDISSUETIME TM-Serialized Tool Default Issue Time in Days.
- TKITTOOLROOM TM-If Yes, then Tool Kit must be Checked Into same Toolroom it was Checked Out of.
- TOOLSETDEFLTISLMT TM-Tool Set Issue Default Issue Limit.
- TOOL_JOB TM-Which hour of day (1 to24) to execute DELINQUENT_TOOLS.FLAG_DELINQUENT_TOOLS job.
- USETOOLDELINQRULES TM- Y(es) allows only SAFETY checkouts if any delinquencies found; N(o) allows ALL tool checkouts regardless; SPECIAL allows only SAFETY checkouts unless KITTED or PERMENANT delinquencies found then allows ALL tool checkouts.

The following fields were set to non-editable:

- All fields autopopulated from Employee, Kit ID, DMAPS ID, PAC Code, and Transporter.

Program Customizations:

MAXCUST.DLL modifications:

- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when the Transaction button is clicked.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.
- ToolCrib.cpp was created to:
 - Populate the screen fields based on the Employee Number, DMAPS ID, PAC Code, or Kit ID entered.
 - Compute the number of tools issued to the employee.
 - Check to see if the employee has any Licenses.
 - Verify that a Transporter is entered if employee number is not for an employee record type.
 - Verify if the employee can receive tools from the selected toolroom.
 - Check to see if employee is authorized to check out tools.
 - Verify if the user has authorization to the toolroom.
 - Verify if the user has authorization to the Log Book button.
 - Check to see if the employee’s Kit has been modified.
 - Check to see if the employee has any replacement tools ready for pickup.
- ReturnToolsDialog.cpp was created to:
 - Display and manipulate the Transaction Log grid once the Toolroom and either the Employee Number, DMAPS ID, PAC Code, or Tool Kit Number are entered.
 - When the Transaction Button is pressed:
 - Verify the Toolroom and Employee Number are populated before the grid is activated.
 - Call the User Login function to get the User ID.
 - Verify the User ID has access to the Toolroom.
 - Require a Transporter if the Employee Number is a Project or Organization.
 - Automatically populate the grid from the ISSUGRID table based on selection criteria entered on the top portion of the screen.
 - Display a + sign to the left of the Description of Kits and Sets.
 - Expand a Kit when the + sign is pressed by displaying all tools in the kit that have a Tool Kit quantity greater than zero.
 - Expand a Set when the + is pressed by displaying all tools within the set.
 - Check Due Date and Bold any tools that are due.
 - Italicize any tool that has been renewed during the session.
 - Allow the user to highlight the row to be used when the Action is selected.
 - Provide the ability to Search for a tool in the grid by Tool Number or Description.
 - Support searching by the old Tool Number if the Tool Number was changed.
 - Displays a list of valid actions in the Actions field.
 - Check Application Authorizations settings for Actions to display.
 - Check to make sure required fields are populated before an action is initiated.

- Verify the employee is authorized to receive tools if action is to checkout tools.
- Allow only appropriate actions on appropriate tool types.
 - Replacements only active for tools in kits.
 - Loaner Issue Type tools, Kits, and Sets cannot be modified.
 - Shift Issue Type tools cannot be renewed.
 - Kits can only be updated in issuing toolroom if the FEM System Variable is set.
- Check Application Authorizations setting to see if the user has access to the Log Book toolbar button.
 - Display Log Book Mode on message line.
 - Allow Checkout of tools in Log Book Mode even though user has delinquent tools.
- Call the appropriate code to perform the Action selected by the user.
- When the Done button is pushed:
 - Call the Print Option Dialog Box so the user can select the report to print.
 - Call SQWT to execute Employee Current Transaction Report if requested.
 - Call the SQR Viewer to display the report.
 - Delete the Tool Reports records created during the session if no report is requested.
 - Reset any Italicize display flags.
 - Clear the Grid.
 - Clear all fields except the Record Key and Toolroom fields on the main screen.

PrintOptionDialog.cpp was created to:

- Display the Print Option Dialog box for the Tool Checkout and Check In application so the user can select either the Current Transaction Report, Employee Activity Report, or No report and then select the number of copies.

The ISSUGRID_T Database trigger was modified to:

- Set ISSUGRID6 (Log Book Entry Date) equal to the System Date if the record was updated in Log Book Mode.

Check Out Dialog Box

Check Out

Tool Number ... Issued Qty

Tool Room Tool Type Tool Category

Issuing Bin Qty in Issuing Bin

Issue Type Number of Days For Special

Due Date Date/Time Due for Shift (Format: MM/DD/YYYY HH:MI)

Remarks

Program Customizations:

- The user selects the CHECKOUT Action.
- The Tool Room field autopopulates with the Toolroom entered on the Tool Check Out and Check In screen.
- Upon entering a valid Tool Number, Tool Type and Tool Category autopopulate with information specific to the entered tool. Issuing Bin autopopulates with the Default Bin for the tool in the displayed Toolroom and Qty in Issuing Bin autopopulates with the quantity of tools in that bin. The user can change the value in Issuing Bin, but it must be a valid issuing bin.
- The Issue Type field defaults to TEMPORARY. The user can change the value to PERMANENT, SHIFT, or SPECIAL, as required. Special issue types require a value in the Number of Days For Special field. Shift issue types require a value in the Date/Time Due for Shift field.
- The Remarks field is a free text field. The user may enter any information pertinent to the tool check out.
- The Issued Qty field defaults to 1, but can be changed for Bulk tools, Consumable tools, Expendable tools, Safety tools, and Tool Sets. The issued quantity for Calibrated tools, Modified tools, Serialized tools, and Tool Kits, cannot be greater than one.
- Once the Process button is clicked, several validations occur. As the system goes through the validation process, any validation which fails halts the check out process and does not allow the user to record the check out of the tool that failed. Messages display to inform the user of each validation failure.

- If a tool has a pending Calibration or Inspection, based on the setting for the CAL/INSP_DUE_DAYS FEM System Variable, an advisory message displays. If a tool is past due for Calibration or Inspection, the transaction cannot be completed.
- For each uniquely identified tool, the system checks the Ready for Issue? indicator and the Status Condition of the tool to ensure that the tool is available for check out. If this validation fails, the system displays a message to inform the user that the tool cannot be checked out.
- The system checks to see that sufficient quantities exist in the issuing bin. If this validation fails, the system displays a message.
- The system checks to see if there are any specific licenses required to check out the tool and whether the employee checking out the tool has the required licenses. If this validation fails, the system displays a message to inform the user that the tool cannot be checked out.
- The system checks whether the tool is due calibration or inspection. If either of these validations fail, the system checks to see if the employee has been granted the appropriate override for the tool through the Application Authorizations application. If the employee has not been granted the override, the system displays a message to inform the user that the tool cannot be checked out.
- If the employee has delinquent tools, the system uses the setting for the USETOOLDELINQRULES FEM System Variable to determine if the employee is allowed to check out only Safety tools.
- The Due Date is determined based on the Issue Time Limit. The Issue Time Limit can be found in four places. The system looks at these places in a particular order to find the Issue Time Limit to use. If the Issue Time limit in the first place is blank, it looks in the next place, and so on. The places, in order, are the Master Tool Inventory record, the Tool Category ID record, the Tool Issue Limit record, and the appropriate FEM System Variable. There is a different FEM System Variable for each tool type.
- When determining the tool's due date, if there is a calibration due date, inspection due date, PM due date, or license expiration date earlier than the calculated due date, the system uses the earliest date.
- When all tools have been processed, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log list refreshes and displays all tools currently checked out to the employee including the ones that were just processed.
- Consumable tools do not display on the list but do appear on the Current Transaction Report.

- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.
- If the tool has a Scheduled Tool Inspection record with the flag set for Visual Inspection at Check Out, a message will appear to notify the attendant.

Check In Dialog Box

Check In

Tool Number Issue Qty

Warranty ☐ Issuing Toolroom Default Bin

Condition

OK Broken Repair Worn Warranty Return Quantity

Remarks

Process Clear Return

Program Customizations:

- The user highlights the row with the tool number in the Transaction Log and then selects the CHECKIN Action. The dialog box will display with the highlighted tool.
- Issue Qty and Warranty autopopulate with information specific to the selected tool. Issuing Toolroom autopopulates with the Toolroom entered on the Tool Check Out and Check In screen and Default Bin autopopulates with the default bin for the tool in the displayed toolroom.
- For the tool(s) being returned, the user determines the condition of the tool(s) and enters the quantity into the identified condition block(s). For Calibrated tools, Modified tools, Serialized tools, and Tool Kits, this quantity will be 1. For Bulk tools, Consumable tools, Expendable tools, Safety tools, and Tool Sets, it can be greater than 1 but cannot be greater than the original Issue Qty.
- Tools identified as being under Warranty can only be checked in as OK or Warranty.
- The Remarks field is a free text field. The user may enter any information pertinent to the check in.
- After entering the quantity and condition of the tool(s) being checked in, the user clicks the Process button to save the transaction. To continue with Check In, the user highlights another row. As tools to be checked in are processed, the system displays an asterisk in the box at the far left of the row to indicate that the tool has been processed.
- Once the Process button is clicked, some validations occur. As the system goes through the validation process, any validation that fails halts the check in process and does not allow the user to record the check in of the tool that failed. Messages display to inform the user of each validation failure.

- Validation ensures that the checked in quantity does not exceed the current issued quantity for the identified tool.
- The Check In process stops if the Toolroom is different from where the tool was issued. Tool Kits, only, can be checked in to a different toolroom if the TKITTOOLROOM FEM System Variable is set to N.
- When the user checks in a tool in OK condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Default Bin.
- When the user checks in a tool in Warranty condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Warranty bin. If the Warranty bin does not exist in the toolroom, it is created. If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to WARRANTY.
- When the user checks in a tool in Repair condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Repair bin. If the Repair bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, Broken Tools table (LFDTOOLS). If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to REPAIR.
- Only Bulk, Expendable, and Safety tools can be checked in as Worn. When the user checks in a tool in Worn condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Worn bin. If the Worn bin does not exist in the toolroom, it is created.
- Only Bulk, Expendable, and Safety tools can be checked in as Broken. When the user checks in a tool in Broken condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Broken bin. If the Broken bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, and Broken Tools table (LFDTOOLS).
- Tool Kits and Tool Sets can only be checked in with a condition of OK.
- When all tools have been checked in, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log list refreshes and displays all tools still checked out to the employee.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.
- If a Kit is checked in that has outstanding Replacement Requests a warning message will be displayed to let the Toolroom Attendant know that they exist. The Toolroom

Attendant can elect to continue with the check in or cancel the transaction. If the Kit is checked in, any “Tools ready for pickup” messages for the kit will be cleared.

- If the tool has a Scheduled Tool Inspection record with the flag set for Visual Inspection at Check In, a message will appear to notify the attendant.

Exchange Dialog Box

The Exchange Dialog Box is a window for managing tool exchanges. It includes the following fields and controls:

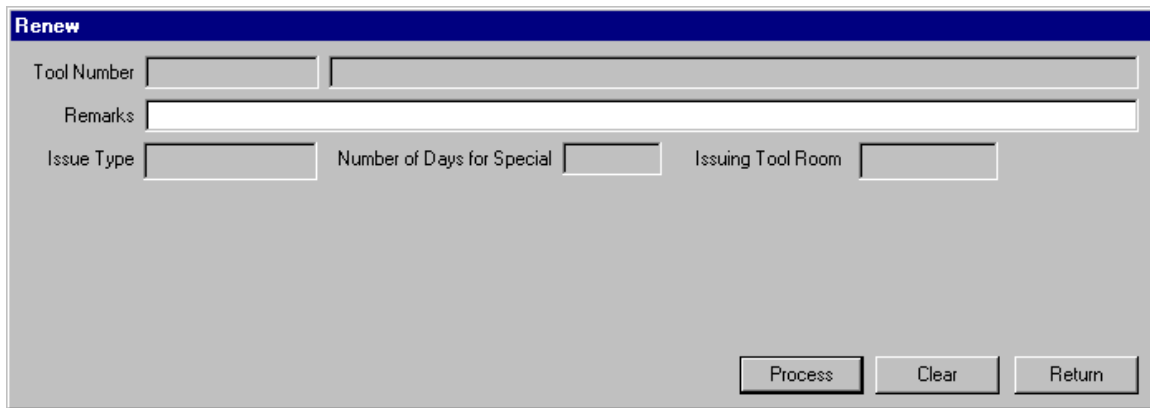
- Tool Number:** A text input field.
- Issue Qty:** A text input field.
- Warranty:** A checkbox.
- Issuing Bin:** A dropdown menu.
- Bin Qty:** A text input field.
- Issuing Tool Room:** A text input field.
- Condition:** A section containing four input fields labeled 'Broken', 'Worn', 'Repair', and 'Warranty', and a 'Total' input field.
- Remarks:** A large text area for notes.
- Buttons:** 'Process', 'Clear', and 'Return' buttons at the bottom right.

Program Customizations:

- The Exchange function is used for Bulk tools, Expendable tools, Safety tools, and Tool Sets only. These tools can be exchanged whether they are in a Tool Kit or outside of a Tool Kit.
- Tools, whether in a Tool Kit or outside of a Tool Kit, can be exchanged in a toolroom other than the one from which they were issued.
- The user highlights the row with the tool number in the Transaction Log and then selects the EXCHANGE Action. The dialog box displays with the highlighted tool.
- Issue Qty and Warranty autopopulate with information specific to the selected tool. Issuing Tool Room autopopulates with the Toolroom entered on the Tool Check Out and Check In screen. Issuing Bin autopopulates with the Default Bin for the tool in the displayed Toolroom and Bin Qty autopopulates with the quantity of tools in that bin.
- The Exchange Total must be less than or equal to the Issue Qty.
- For the tool(s) being exchanged, the user determines the condition of the tool(s) and enters the quantity into the identified condition block(s).
- The system checks to see that sufficient quantities exist in the issuing bin. If this validation fails, the system displays a message.
- After entering the quantity and condition of the tool(s) being exchanged, the user clicks the Process button to save the transaction. To continue with Exchange, the user highlights another row.

- Once the Process button is clicked, several validations occur. As the system goes through the validation process, any validation that fails halts the exchange process and does not allow the user to record the exchange of the tool that failed. Messages display to inform the user of each validation failure.
- The tool(s) issued to the employee retain the same Due Date as the originally issued tool(s).
- When the user exchanges a tool in Warranty condition, FEM takes the tool being issued to the employee from the issuing bin. The exchanged tool is placed in the Warranty bin. If the Warranty bin does not exist in the toolroom, it is created.
- When the user exchanges a tool in Repair condition, FEM takes the tool being issued to the employee from the issuing bin. The tool is placed in the Repair bin. If the Repair bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, Broken Tools table (LFDTOOLS).
- When the user exchanges a tool in Worn condition, FEM takes the tool being issued to the employee from the issuing bin. The exchanged tool is placed in the Worn bin. If the Worn bin does not exist in the toolroom, it is created.
- When the user exchanges a tool in Broken condition, FEM takes the tool being issued to the employee from the issuing bin. The exchanged tool is placed in the Broken bin. If the Broken bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, and Broken Tools table (LFDTOOLS).
- When all tools have been processed, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log list refreshes and displays all tools currently checked out to the employee.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Renew Dialog Box



Renew

Tool Number

Remarks

Issue Type Number of Days for Special Issuing Tool Room

Process Clear Return

Program Customizations:

- The user highlights the row with the tool number in the Transaction Log and then selects the RENEW Action. The dialog box displays with the highlighted tool.
- Tool Number Description autopopulates. Issuing Tool Room autopopulates with the Toolroom entered on the Tool Check Out and Check In screen. Issue Type and Number of Days for Special autopopulate with information from the original issue.
- The Remarks field is a free text field. The user may enter any information pertinent to the renewal.
- The user clicks the Process button to save the transaction. To continue with Renew, the user highlights another row.
- Once the Process button is clicked, several validations occur. As the system goes through the validation process, any validation that fails halts the renewal process and does not allow the user to record the renewal of the tool that failed. Messages display to inform the user of each validation failure.
- If a tool is delinquent, it can only be renewed if it is delinquent because of time. Tools that are delinquent because calibration is due, inspection is due, or a license has expired cannot be renewed.
- The Renew action can only occur if the Issuing Toolroom is the current toolroom location.
- This action can only occur if the Renew Tool Issue? flag on the Master Tool Inventory record for the tool is set to Y.

- The Due Date is recalculated from the current System Date.
- The Due Date is determined based on the Issue Time Limit. The Issue Time Limit can be found in four places. The system looks at these places in a particular order to find the Issue Time Limit to use. If the Issue Time limit in the first place is blank, it will look in the next place, and so on. The places, in order, are the Master Tool Inventory record, the Tool Category ID record, the Tool Issue Limit record, and the appropriate FEM System Variable. There is a different FEM System Variable for each tool type.
- If there is a calibration due date, inspection due date, PM due date, or license expiration date earlier than the calculated due date, the system uses the earliest date.
- When all tools have been renewed, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log list refreshes and any tools that were renewed are italicized.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Update Kit Dialog Box

Update Kit

Kit Number Issuing Toolroom

Category ID	Tool Number	Description	Drawer	Bin	Issue Qty

Remaining Issue Qty, Template Qty

Process Clear Return

Program Customizations:

- The user must be given access to this Action using the Application Authorizations application.
- The user highlights the row with the tool number of the kit in the Transaction Log and then selects the UPDATEKIT Action. The dialog box displays those tools in the kit where the quantity in the kit is less than the template quantity.
- The grid will populate with all tools where the Template Quantity is greater than the Tool Kit Quantity except for those tools that have replacement requests. This includes tools that were reported as lost or stolen and a Tool Request was generated.
- Issuing Toolroom autopopulates with the Toolroom entered on the Tool Check Out and Check In screen.
- For Bulk tools, Expendable tools, Safety tools, and Tool Sets, the Tool Number, Description, Drawer, and Bin will autopopulate. Bin and Issue Qty are editable.
- For Calibrated, Serialized, and Modified tools and Tool Kits, the Category ID, Description, and Drawer will autopopulate. Tool Number, Bin, and Issue Qty are editable.
- For all tools, Issue Qty defaults to zero, Remaining Issue Qty defaults to the difference between the template quantity and the quantity currently in the tool kit, and Template Qty defaults to the quantity for the tool in the template.
- After entering the information for all tools that are being added to the kit, the user clicks the Process button to save the transaction.

- The tools issued to a Tool Kit will assume the Tool Kit's toolroom, regardless of which toolroom the tool is issued from.
- The tools issued are written to the Tool Kit record.
- When all updates have been processed, the user clicks the Return button. This closes the dialog box and returns to the main screen. If the updated kit were expanded at this point, the issued tools would display.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Replacement Request Dialog Box

Replacement Request

Tool Number Issue Qty

Kit ID Warranty ☐

Condition

Broken	Repair	Worn	Warranty	Total
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Loaner Tool Number ... Quantity

Issue Time (Days) Issuing Bin Available Quantity

Remarks

Stocking Toolroom

Program Customizations:

- The user must be given access to this Action using the Application Authorizations application.
- A Replacement Request is done only for tools that are in a kit.
- The tool attendant user expands the kit on the Transaction Log, highlights the row with the tool number, and selects the REPLACEMENTREQUEST Action. The dialog box displays with the highlighted tool.
- Tool Number Description, Kit ID, and Warranty autopopulate with information specific to the selected tool. Issue Qty autopopulates based on the original issue.
- For the tool(s) being returned, the tool attendant determines the condition of the tool and enters the quantity into the identified condition block(s). For Calibrated tools, Modified tools, and Serialized tools, this quantity will be 1. For Bulk tools, Expendable tools, and Safety tools, it can be greater than 1.
- Tools identified as being under Warranty can only be returned as OK or Warranty, but non-Warranty tools can be returned using the Warranty condition.
- A Loaner tool may or may not be issued. If so, the user enters the Quantity and Issuing Bin
- If a Loaner Tool Number is entered, Issue Time (Days), Issuing Bin, and Available Quantity will autopopulate. The Issue Time (Days) for the Loaner will default to the setting of the FEM System Variable LOANERISSUEDAYS. (Note: If

LOANERISSUEDAYS = 0 no due date is assigned.) The user can change the default value and can change the value in Issuing Bin.

- The Stocking Toolroom is a required field and defaults to the Primary Vendor for the Tool as defined in the Master Tool Inventory application.
- The Remarks field is a free text field. The user may enter any information pertinent to the Replacement Request.
- After entering the quantity and condition of the tool(s) for which the replacement request is being done, any loaner information, if applicable, and the Stocking Toolroom, the user clicks the Process button to save the transaction. Several validations occur. As the system goes through the validation process, any validation that fails halts the process and does not allow the user to record the return of the tool(s) being replaced or the issue of the loaner tool(s). Messages display to inform the user of each validation failure.
- Validations ensure that the replaced quantity does not exceed the current issued quantity for the identified tool.
- When the user replaces a tool in Warranty condition, FEM updates the Tool Kit record and updates the balance in the receiving toolroom. The tool is placed in the Warranty bin. If the Warranty bin does not exist in the toolroom, it is created. If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to WARRANTY.
- When the user replaces a tool in Repair condition, FEM updates the Tool Kit record and updates the balance in the receiving toolroom. The tool is placed in the Repair bin. If the Repair bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, Broken Tools table (LFDTOOLS). If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to REPAIR.
- Only Bulk, Expendable, and Safety tools can be replaced as Worn. When the user replaces a tool in Worn condition, FEM updates the Tool Kit record and updates the balance in the receiving toolroom. The tool is placed in the Worn bin. If the Worn bin does not exist in the toolroom, it is created.
- Only Bulk, Expendable, and Safety tools can be replaced as Broken. When the user replaces a tool in Broken condition, FEM updates the Tool Kit record and updates the balance in the receiving toolroom. The tool is placed in the Broken bin. If the Broken bin does not exist in the toolroom it is created. A record is written to the Lost, Found, Broken Tools table (LFDTOOLS).
- If the tool has never been in the receiving toolroom, the tool, inventory, and inventory balances records are created.
- A Tool Request is always generated. The Tool Request number is prefixed with 'RT-'. A message displays with the Tool Request number.

- When all replacement requests have been done, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log list refreshes and the kit collapses. If the kit is then expanded, the changes can be seen.
- If a loaner tool is selected, it is issued outside of the tool kit with an Issue Type of LOANER.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Replacement Issue Dialog Box

Replacement Issue

RT or LT Number Warranty ☐

Loaner Tool Number Issue Qty

Condition

OK	Broken	Repair	Worn	Warranty	Total
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Replacement Tool Number Issue Qty

Issuing Bin Available Qty

Remarks

Category ID

Program Customizations:

- The user must be given access to this Action using the Application Authorizations application.
- When replacement tools for an employee have been transferred in to the ordering toolroom using the Toolroom Transfer In application, the next time that employee's number is entered in the Tool Check Out and Check In application, a message appears advising the user that the employee has tools ready for pickup.
- To issue replacement tools, the user selects the REPLACEMENTISSUE Action. Replacement Issues can only be processed if there is a corresponding Replacement Request.
- Once the Tool Request Number is entered, Loaner Tool Number, Loaner Tool Number Description, Warranty, and Issue Qty autopopulate if a loaner was issued. The Loaner must be returned prior to issuing the replacement.
- If loaners are returned, the user determines the condition of the tool(s) and enters the quantity into the identified condition block(s). For Calibrated tools, Modified tools, Serialized tools, and Tool Kits, this quantity will be 1. For Bulk tools, Expendable tools, Safety tools, and Tool Sets, it can be greater than 1.
- Tools identified as being under Warranty can only be returned with a condition of OK or Warranty, but non-Warranty tools can be returned using the Warranty condition.
- Tool Sets can only be returned with a condition of OK.

- Replacement Tool Number and Issue Qty are defaulted based on the Tool Request. The Issuing Bin autopopulates based on the bin number used when the tool was transferred into the toolroom, but can be changed. Category ID autopopulates based on the Replacement Tool Number.
- The Remarks field is a free text field. The user may enter any information pertinent to the replacement issue.
- Once the Process button is clicked, some validations occur. As the system goes through the validation process, any validation that fails halts the process and does not allow the transaction for the tool that failed. Messages display to inform the user of each validation failure.
- The process will stop if the Toolroom is different from where the loaner tool was issued.
- When the user returns a loaner tool in OK condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Default Bin.
- When the user returns a loaner tool in Warranty condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Warranty bin. If the Warranty bin does not exist in the toolroom, it is created. If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to WARRANTY.
- When the user returns a loaner tool in Repair condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Repair bin. If the Repair bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, Broken Tools table (LFDTOOLS). If the tool is Calibrated, Modified, or Serialized, the Status Condition is set to REPAIR.
- Only Bulk, Expendable, and Safety tools can be checked in as Worn. When the user returns a loaner tool in Worn condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Worn bin. If the Worn bin does not exist in the toolroom, it is created.
- Only Bulk, Expendable, and Safety tools can be checked in as Broken. When the user returns a loaner tool in Broken condition, FEM clears the check out and updates the balance in the receiving toolroom. The tool is placed in the Broken bin. If the Broken bin does not exist in the toolroom, it is created. A record is written to the Lost, Found, and Broken Tools table (LFDTOOLS).
- Loaner Issue Qty must equal the Total Returned.
- When all replacement issues have been processed, the user clicks the Return button. This closes the dialog box and returns to the main screen. If the kit with the replaced tool was to be expanded, the changes would be seen. The loaner tool no longer appears in the Transaction Log list.

- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Modify Dialog Box

Modify

Tool Number

Quantity Tool Type Tool Category Issuing Toolroom

Issue Type Number of Days for Special

Due Date Date/Time Due for Shift (Format: MM/DD/YYYY HH:MI)

Remarks

Program Customizations:

- The user must be given access to this Action using the Application Authorizations application.
- The user highlights the row with the tool number in the Transaction Log and then selects the MODIFY action. The dialog box displays with the highlighted tool. Tool Number, Description, Quantity, Tool Type, Tool Category, Issuing Toolroom, and Issue Type autopopulate with information from the original issue.
- When the Issue Type is changed to SPECIAL, a value must be entered in the Number of Days for Special field.
- When the Issue Type is changed to SHIFT, a value must be entered in the Date/Time Due for Shift field.
- The Remarks field is a free text field and is a required field.
- After entering the new issue type information and any remarks, the user clicks the Process button to save the transaction. To continue with Modify, the tool attendant highlights another row.
- A new Due Date is calculated based on the original issue date and the new issue type.
- If there is a calibration due date, inspection due date, or license expiration date earlier than the calculated due date, the system uses the earliest date.
- The Issuing Toolroom for the tool being modified must be the current toolroom location.

- When all tools have been modified, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log refreshes and displays the modified tools with their new issue types and due dates.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

Lost/Stolen Dialog Box

Program Customizations:

- The user highlights the row with the tool number in the Transaction Log and then selects the LOST/STOLEN Action. The dialog box displays with the highlighted tool.
- Tool Number Description, Kit ID, and Issued Qty autopopulate.
- The Lost selection is the default but can be changed to Stolen.
- The user chooses whether to generate a Lost Tool Request to replace the lost tool.
- Control Number is a required field.
- The Remarks field is a free text field. The user may enter any information pertinent to the action.
- A Loaner tool may or may not be issued. If so, the user enters the Quantity and Issuing Bin.
- If a Loaner Tool Number is entered, Issue Time (Days), Issuing Bin, and Available Quantity will autopopulate. The Issue Time (Days) for the Loaner defaults to the setting of the FEM System Variable LOANERISSUEDAYS. (Note: If LOANERISSUEDAYS = 0 no due date is assigned.) The user can change the default value and can change the value in Issuing Bin.
- If Generate Lost Tool Request is chosen, a Tool Request is automatically generated. The system will display the identifier assigned to the Tool Request. It will be prefixed with 'LT'.

- Stocking and Requesting Tool Rooms are a required field if a Tool Request is to be generated. The Stocking Tool Room Defaults to the Primary Vendor for the Tool and the Requesting Tool Room defaults to the Tool Room on the Checkout screen. Both values can be changed.
- When all lost or stolen tools have been processed, the user clicks the Return button. This closes the dialog box and returns to the main screen. The Transaction Log refreshes and displays the reported tools no longer appear on the list.
- Any loaner tools are issued with an Issue Type of LOANER.
- When the Done button is clicked, the system displays a dialog box with three options. The user can choose to print a report of the current transactions, to print a report of the current transactions plus a list of all tools checked out to the employee, or to not print a report.

LOG BOOK

The Log Book process is designed to support the data input of both check in and check out actions, which were performed manually during system downtime. The only validations performed during Log Book usage are to check available quantities and to check that the user is authorized for the toolroom. Its purpose is to enable the capture of essential data such as Employee #, Tool Number, and the associated Action taken on the tool.

Typically, the transactions that are processed while the system is down are done from multiple computers (as setup on the C: Drive) using Access database software. The data from each computer is merged into a single database and then imported into FEM Tool Management after the system comes back on line. The Log Book function in FEM can be used if the Access software is not used.

The user must be given access to the Log Book function using the Application Authorizations application. The Toolroom field value will default to the toolroom where the user logged on to the system. For users outside of the standard toolrooms, the Toolroom value can be entered by either typing it in or by clicking on the details button for the Select Value dialog box.

After the user has entered all the pertinent data in the fields on the upper portion of the screen, the user can access the transaction process by clicking on the Log Book button. The system will display a dialog box and prompt the user to enter USERID and PASSWORD. The user must enter a valid USERID and PASSWORD combination to proceed. The message section at the bottom of the screen will show 'Log Book Mode'.

All actions available in Transaction Mode are also available during the input of Log Book entries. The difference is the validations that are performed. The system only checks that the user has authorization to the Toolroom and that there are sufficient quantities available for issue. For Log Book transactions that are performed where the Tool Number remains on the Transaction Log listing, the system will display a bolded 'L' next to the Tool Number.

Tool Request – TR Tab

The screenshot displays the 'Tool Request' application window. The title bar reads 'Tool Request'. The menu bar includes 'File', 'Edit', 'View', 'Actions', 'Insert', 'Navigate', 'Setup', and 'Help'. The toolbar contains various icons for file operations and navigation. The main window has three tabs: 'TR', 'TR Lines', and 'Linked Documents'. The 'TR' tab is active, showing a form with the following fields:

- Tool Request # [Text Field]
- Status [Dropdown Menu]
- Ordering Toolroom [Dropdown Menu]
- User Type [Text Field]
- Status Date [Dropdown Menu]
- Stocking Toolroom [Dropdown Menu]
- Requested By [Text Field]
- Requesting Organization [Text Field]
- Modified By [Text Field]
- Modified Date [Dropdown Menu]

On the left side, there is a 'Modules' menu with the following items: FEM Admin, TM Admin, Interfaces, Tool Manager, Work Orders, PMs, Equipment, TM Inventory, Inventory, Purchasing, Job Plans, Labor, Resources, Setup, Utilities, Work Flow, Calendars, and Custom Apps. At the bottom left, there is a 'QUERY' button. At the bottom right, there is a small icon labeled 'RBC'.

TR Tab: This application is designed to provide the user with the ability to create and view purchase requisitions for tools and services from the main tool crib. The TR Lines tab of the application allows the user to enter and view the specific items requested.

Note: Tool Requests can be automatically generated from Kit Templates, Kits, and Tool Check Out and Check In applications:

- For TRs generated from a Tool Kit Template, the Tool Request number is prefixed with 'TT-'. The Tool Kit Template number is placed in both the description and Requested By fields.
- For TRs generated from a Tool Kit, the Tool Request number is prefixed with 'TK-'. The Tool Kit number is placed in both the description and Requested By fields.
- For TRs generated from the Replacement Request action in the Tool Check Out and Check In application, the Tool Request number is prefixed with 'RT-'. The Tool Kit number of the kit for which the Replacement Request was done will be placed in both the description and Requested By fields.

- For TR's generated for lost or stolen tools, the Tool Request number is prefixed with 'LT-'. If the lost or stolen tool was in a kit, the Tool Kit number is placed in both the description and Requested By fields. If the tool was not in a kit, the Tool Number is placed in the description field and the user's (toolroom attendant's) name is placed in the Requested By field.
- For a kit that is checked out, the Requesting Organization is the organization of the employee who has the kit.

Tab Customizations:

The following changes were made to the pull-down menus:

- Renamed Purchase Requisitions to Tool Request.
- Hid on Insert menu, New Record; on Navigate menu, all Return options, Extra PR window; on Actions menu, Create PO, Move/Modify Equipment, Select Spare Equipment, all Workflow options.

The following changes were made to the Toolbar:

- Hid all Return options, Create PO, and New toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.

The following changes were made to the Tabs:

- Hid the entire 'From' frame.
- Hid all except Vendor field and label in the 'Vendor' frame.
- Changed Vendor label to Main Toolroom and moved it to the 'Details' frame.
- Hid the Requested and Required fields and labels in the 'Dates' frame.
- Hid all except Requested By and Modified By fields and labels in the 'Details' frame.
- Added Ordering Toolroom label and field to the 'Details' frame.

FEM Settings:

The following Hyperlinks were created:

- Ordering Toolroom displays a selection list from Locations application.
- Stocking Toolroom displays a selection list from Locations application.
- Requesting Organization displays a selection list from Organization application.

The following DLL Validations were created:

- Autopopulate on Field of Requesting Toolroom Name.
- Validate Toolroom against Locations.
- Set to Read Only on Query on PRLINE following; Receipt Status, Quantity Received, Status Date, Quantity Shipped.

The following fields have Default Values:

- (TR Name) defaults to 'Tool Request'.
- User Type defaults to 'TOOL'.

The following changes were made to the Overview dialog box:

- Tool Request # (cKey), Description (c1), Status (c2), Modified Date (c3).

The following fields were set to read only:

- Modified By and Modified Date.

Program Customizations:

The PR_T data base trigger was modified to perform the following functions:

- If the Tool Request is cancelled and the request was for a tool in a kit, the trigger clears the Tool Request flag on the Tool Kit line.
- If the Tool Request is cancelled and the request was for a tool in a kit, the trigger clears the Tool Request flag on the Tool Kit.
- If the Tool Request is cancelled and the request was to support a template, the trigger clears the Tool Request Number on the Tool Kit Template.

The PR_TR_STMT statement level trigger was created to:

- This statement-level trigger fires after insert or update to the STATUS field of the PR table.
- The PR_T trigger, which fires before insert, update or delete on the PR table, checks to see if the :new.STATUS will make the PR 'inactive' and, if so, passes the PRNUM and REQUESTEDBY values (REQUESTEDBY indicating KIT ID or TEMPLATE ID) to the TRIGGER UTILITIES package.
- This trigger retrieves those parameters and executes the UPDATE_TR_FLAG procedure of the TRIGGER UTILITIES package.

The UPDATE_TR_FLAG database procedure was created to:

- Update the TR EXISTS flag in the KITTEMPL (KITTEMPL4), TOOLKIT (TOOLKITS4) and TKLINES (TKLINES4) tables after verifying that all related PR (TKREQUEST) records for that particular TOOLKIT or TEMPLATE (PR.RECEIVEDBY) have status 'CLOSED'.

Program Customizations:

The following modifications were made to MAXCUST.DLL:

- “ToolRequest.cpp” was created to:
 - Prevent Tool Request from being cancelled if there is a loaner tool associated with the Tool Request.
 - Advise user to Check In loaner tool.

The following Modifications where made to MAXCUST>DLL:

- TransferInDialog.cpp was created to:
 - Update the Quantity Received on Tool Request Line Item (PRLINE.RL7).
 - Set the Receipt Status (PRLINE.RL10) to PARTIAL if the Quantity Received is less than the Shipped Quantity.
 - Set the Receipt Status (PRLINE.RL10) to COMPLETE if the Quantity Received equals the Shipped Quantity.
- TransferOutDialog.cpp was created to:
 - Update the Shipped Quantity on Tool Request Line Item (PRLINE.PRLALN1).
 - Update the Transaction Date on the Tool Request Line Item (PRLINE.RL8)

The PRLINE_T database trigger was modified to:

- Create INVENTORY, INVBALANCE, and INVTRANS records for a tool if it is added to a toolroom when a Tool Request Line Item is entered.

Toolroom Transfer In – Main Tab

[illegible]

Main Tab: This application allows the user to indirectly receive tools from another toolroom. It is designed to support toolroom transfers of tools that were Transferred Out to the INTRANSIT toolroom. The grid on the screen will be populated with tools to be received from the INTRANST toolroom that match the filter criteria (Shipping Number, From Toolroom, and/or Tool Request) when the “Display Grid” button is clicked. When a tool is selected, the Received Quantity will default to the Shipped Quantity. The system will automatically update the quantities of all selected tool records when the ‘Save’ button is clicked. If the tool already exists in the “To toolroom” the quantity in the selected Bin will be updated. If the tool does not exist in the “To toolroom” the system will create the tool and inventory records. The system will automatically generate a Shipping Transaction report that documents all tools that were transferred in.

Note: If a transfer in is accomplished for a Replacement Request (RT or LT) for a kit that has already been checked in, a warning message will be displayed for the Toolroom Attendant. This message will tell the attendant that he will need to transfer the tools back to the master tool room. The system will not create a “tools ready for pickup” message.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Transfer In.
- Hid on Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid Return and Return with Selection, and New toolbar button.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Shipping # displays a selection list from Transfer Out application.
- From Toolroom displays a selection list from Operating Locations application.
- To Toolroom displays selection list from Operating Locations application.
- Tool Request # displays a selection list from Tool Request application.
- Master Tool Inventory (pbUser1) launches to Master Tool Inventory application.

The following DLL Validations were created:

- Read Only on Query Remarks.
- Read Only on Query Tool Type.
- Read Only on Query From Toolroom
- Validate the To Toolroom field against Locations.
- Validate the From Toolroom field against Locations.
- Autopopulate Tool Request Description (Hidden field)

The following changes were made to the Overview dialog box:

- Record Key (cKey), To Toolroom (c2), Tool Type (c3), Changed By (c4), Changed Date (c5), Remarks (c1).

The following fields are non-editable:

- Changed By and Changed Date.

The following field defaults were built:

- Changed Date.

The following FEM Variable was built:

- FILLTOOLREQUESTS controls the auto-filling of Tool Requests on Transfer In when no tool request is specified on the Transfer Out. FILLTOOLREQUESTS = 'Y' means auto-fill tool requests. FILLTOOLREQUESTS = 'N' means do not auto-fill tool requests.

Program Customizations:

The following modifications were made to MAXCUST.DLL:

- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.
- TransToolPasswordCheck.cpp was created to:
 - Auto-populates the 'Modified By' field with the labor code of the user who logged into the password screen
- TransferInDialog.cpp was created to perform the following functions:
 - Verifies the screen is in Insert mode by checking for data in the Changed By field.
 - Ensures the From and To Toolrooms are not the same
 - Ensures the user has access to the To Tool Room.
 - Populates data in the Display Tools for Transfer grid from the Tool Reports table based on selection data when the Display Grid button is displayed.
 - Displays and manipulates the Display Tools for Transfer grid.
 - Allows the user to enter the Received Quantity
 - Validates the quantity does not exceed Shipped Quantity.
 - Allows user to enter To Bin.
 - Validate the To Bin is a valid Bin Number for the tool.
 - Allows the User to enter Remarks.
 - Defaults the To Bin to the Default Bin for the Tool in the Toolroom unless the transfer is for a Replacement or Lost Tool Request. In this case the Bin is defaulted to ‘REPLACEMENT’
 - Supports searching for tool in the grid by Tool Number or Description.
 - Supports selecting particular tool in the grid using the mouse as well as selecting all tools using the ‘Select All’ button.
 - Performs the follow actions when the record is saved:
 - If there is no Inventory record for the tool in the To tool room.
 - Creates a new Inventory table record for the To toolroom.
 - Creates a new Inventory Balance record for the selected bin in the To toolroom.
 - Creates a new Inventory Transaction record for the To toolroom.
 - If there is an Inventory record for the tool in the To tool room.
 - Updates the Inventory Balance record for the tool being transferred.
 - Clears a hidden field (IL10) on the Inventory record for the To toolroom when entire quantity is transferred
 - Creates a TRANSIN MATRECTRANS record to document the transfer.
 - Creates a Tool Reports record for each tool transferred.
 - Set the location (IN27) to the To Toolroom and sets the Status Date (IN13) to system date if the tool is a unique tool type.

- Updates the Inventory Balance record for the INTRANSIT Toolroom by reducing it by the Quantity Transferred.
- If the Transfer is to support a Tool Request:
 - Update the Quantity Received on Tool Request Line Item (PRLINE.RL7).
 - Set the Receipt Status to PARTIAL if the Quantity Received is less than the Shipped Quantity.
 - Set the Receipt Status to COMPLETE if the Quantity Received equals the Shipped Quantity.
 - If the Tool Request is for a Replacement Request or Lost tool, Set the Print Flag = 'R' on the Tool Reports table for all Lines that match the Tool number.
 - If a Transfer In is from an Internal Vendor (Assigned Toolroom), decrement quantity of oldest TR for that Tool Category for that Toolroom.
- If entire quantity is transferred, update the Print Flag = 'Y' where the Print Flag = 'T' for the Corresponding Tool report record for the Tool number where APPNAME = TRANSOUT
- If only a partial quantity is transferred, update the Transferred Quantity on the Tool Report table.
- Clears the Grid.
- Automatically calls SQRT to produce the MASSTOOL report.
- Calls SQR Viewer to display the report.

Toolroom Transfer Out – Main Tab

[illegible]

Main Tab: This application allows the user to indirectly move tools to another toolroom. This application is designed to support toolroom transfers of tools that require receipt at the destination toolroom. The table on the screen will be used to select the tools to be moved from one toolroom to another. The system will automatically update the quantities of all selected tool records when the ‘Save’ button is clicked. Selected tools will be saved to a virtual toolroom (INTRANSIT) for holding, pending receipt at the destination toolroom. If the tool already exists in the in-transit toolroom the quantity in the selected Bin will be updated. If the tool does not exist in the in-transit toolroom the system will create the tool and inventory records. The user can choose whether to generate the Shipping Transaction report that documents all tools that were transferred out.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Transfer Out.
- Hid on Insert menu, Insert record; Navigate menu, all Return options; on Help menu, Visit us on the Web.

The following changes were made to the Toolbar:

- Hid all Return buttons, New button.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- From Toolroom to LOCATIONS.LOCATION.
- To Toolroom to LOCATIONS.LOCATION.
- Tool Request displays a selection list from Tool Request application.
- Master Tool Inventory (pbUser1) launches to the Master Tool Inventory Application.

The following DLL Validations were created:

- Read Only on Query From Toolroom.
- Read Only on Query To Toolroom.
- Read Only on Query Remarks.
- Read Only on Query Tool Type.
- Read Only on Query Tool Request.
- Required From Toolroom.
- Required To Toolroom.
- Validate To Toolroom field against Locations.
- Validate From Toolroom field against Locations.

The following changes were made to the Overview dialog box:

- Shipping # (cKey), From Toolroom (c6), To Toolroom (c7), Changed By (c4), Changed Date (c5), Remarks (c1).

The following fields were set to read only:

- Changed By and Changed Date.

The following fields were defaulted:

- Change Date.

Program Customizations:

The following modifications were made to MAXCUST.DLL:

- “UserLogin.cpp” was created to:
 - Display the User ID and Password dialog box when a record is inserted.
 - Validate the User ID and Password combination entered.
 - Retrieve the Employee’s Labor Code and Name from the Labor table.
- TransToolPasswordCheck.cpp was created to:
 - Auto-populates the 'Modified By' field with the labor code of the user who logged into the password screen
- TransOut.cpp was created to:
 - Checks to make sure the User has authorization to the Tool room
- TransferOutDialog.cpp was created to:
 - Verifies the screen is in Insert mode by checking for data in the Changed By field.
 - Ensures the From and To Toolrooms are not the same
 - Ensures the user has access to the From Tool Room.
 - Displays and manipulates the Display Tools for Transfer grid.
 - Validates valid Tool Numbers are entered.
 - Checks for multiple Tool Requests against the Tool number if no Tool Request was entered.
 - Populates the Tool Request Line Number from the Tool Request to allow the user to specify which line to associate the transfer out with to cover situations where the same tool number appears on a Tool Request multiple times.
 - Automatically populates Tool Description.
 - Validates a valid Bin Number is entered.
 - Automatically displays Remaining Quantity when Bin is entered
 - Validates a valid Transfer Quantity is entered.
 - Automatically computes Remaining Quantity after Transfer Quantity is entered.
 - Validates that a multi-line Tool Request number is not entered in the grid.
 - Populates the grid row when a Tool Request number is entered.
 - TR Line column is non-editable.
 - Populates the grid row when a Tool Request number is entered.
 - Validates that the To Toolroom matches the Ordering Toolroom on the Tool Request.
 - Does not allow changes to the Tool Number if the Tool Request number is populated.
 - Does not allow changes to the Tool Request number if the Tool Number or Category ID is populated.
 - Autopopulates the Bin column if there is only one bin location for the Tool Number in the From Toolroom.
 - Performs the follow actions when the record is saved:
 - If there is no Inventory record for the tool in the INTRANSIT tool room.
 - Creates a new Inventory table record for the INTRANSIT toolroom.

- Creates a new Inventory Balance record for the RECEIVING bin in the INTRANSIT toolroom.
- Creates a new Inventory Transaction record for the INTRANSIT toolroom.
- If there is an Inventory record for the tool in the INTRANSIT tool room.
 - Updates the Inventory Balance record for the tool being transferred.
- Updates a hidden field (IL10) on the Inventory record for the INTRANSIT location.
- Creates a TRANSOUT MATRECTRANS record to document the transfer.
- Creates a Tool Reports record for each tool transferred.
- Updates the location (IN27) to INTRANSIT and the Status Date (IN13) to system date if the tool is a unique tool type.
- Updates the Inventory Balance record for the From Toolroom by reducing it by the Quantity Transferred.
- If the Transfer is to support a Tool Request:
 - Update the Shipped Quantity on Tool Request Line Item (PRLINE.PRLALN1).
 - Set the Receipt Status to COMPLETE if the Ordered Quantity equals the Shipped Quantity.
 - If the Tool Request is for a Replacement Request or Lost tool, update the Employee Number on the Tool Reports table for all Lines that match the Tool Request number.
- Clears the Grid.
- Asks the User if they want to print a transfer document. If yes then a Transfer report is created.
- Calls SQRT to produce the SHIPTRANS report.
- Calls SQR Viewer to display the report.

Tool Repair – Main Tab

Tool Repair

File Edit View Actions Insert Navigate Setup Help

New Find How Do I...?

Modules

- FEM Admin
- TM Admin
- Interfaces
- Tool Manager
- Work Orders
- PMs
- Equipment
- TM Inventory
- Inventory
- Purchasing
- Job Plans
- Labor
- Resources
- Setup
- Utilities
- Work Flow
- Calendars
- Custom Apps

Main

Record Key

Tool Data

Tool Number
Category ID
Manufacturer
Under Warranty?
Ready for Issue?
Cumulative Repair Cost
Status Date
Current Tool Cost
Status Reason

Repair Data

Repair Cost
Created By
Changed By
Remarks
Charge Cost to Customer?
Created Date
Changed Date
Repairs Made 1)
Repairs Made 2)
Repairs Made 3)

QUERY

Main Tab: This application allows the user to enter and view tool cost and repair related information for Calibrated, Modified, and Serialized tools. If the Charge Cost to Customer flag is set, the cost of the Repair can be tracked back to the customer through the Lost, Stolen, and Broken application. If the Tool is to be scrapped the tool status is updated in the Master Tool inventory and the balance is set to zero. If the tool is repaired the tool status is updated in the Master Tool inventory and the tool is marked Ready for Issue.

Tab Customizations:

The following changes were made to the pull-down menus:

- The text Custom Application was removed from all pull-down menus.
- Renamed Exit MAXIMO to Exit FEM, appCustApp to Tool Repair
- Hid on Navigate menu, all Return options; on Help menu, Visit us on the Web

The following changes were made to the Toolbar:

- Hid the Return and Return with Selection toolbar buttons.
- Replaced Insert with Insert with Autonumber toolbar button.

FEM Settings:

The following Hyperlinks were created:

- Tool Number displays selection list from Master Tool Inventory application.
- Category ID displays a selection list from Tool Category ID Maintenance application.
- Manufacturer displays a selection list from Companies application

The following DLL Validation entries were created:

- Autopopulate on Field (Tool Number Description) from Item.
- Autopopulate on Field Category ID from Item.
- Autopopulate on Field Status Reason from Item.
- Autopopulate on Field Cost field.
- Autopopulate on Field Under Warranty field.
- Autopopulate on Field Manufacturer field.
- Autopopulate on Field Manufacturer Description.
- Autopopulate on Save Changed By to current system user.
- Autopopulate on Save Changed Date to current system date.
- Read Only on Query (Tool Number Description).
- Read Only on Query Category ID.
- Read Only on Query Status Reason.
- Read Only on Query Under Warranty field.
- Validate Tool Number against ITEM.ITEMNUM.

The following fields have Default Values:

- Created By defaults to the current system user.
- Created Date defaults to the current system date.

The following Value List (and supported field) was created:

- REPAIR value list for Reason to Repair List 1.
- REPAIR value list for Reason to Repair List 2.
- REPAIR value list for Reason to Repair List 3.
- REASON1 value list for Status Reason.

The following changes were made to the Overview Dialog Box:

- Set Record Key (cKey), Tool Number (c2), Tool Description (c3), Ready for Issue (c4), Status Date (c5), Status Reason (c6), Replacement Cost (c7), Cumulative Cost (c9), Repair Cost (c8), Charge to Customer (c10), Repairs Made 1 (c11), Repairs Made 2 (c12), Repairs Made 3 (c13), Created By (c14), Created Date (c15), Remarks (c1).

The following fields were set to Read Only:

- Standard Cost, Cumulative Repair Cost, Created By, Created Date, Changed By and Changed Date.

Program Customizations:

The TOOLREPR_T database trigger was modified to:

- Perform the following actions when a record is updated or saved:
 - If a tool is marked as OK:
 - Updates the tool's Ready for Issue flag = 'Y', Status, and Status Date in the Item table
 - If the tool is marked as 'Scrap':
 - Updates the tool's Ready for Issue flag = 'N', Status, and Status Date in the Item Table.
 - If the scrapped tool is a Serialized, Calibrated or Special tool, the current balance is set to zero.
 - If the tool's repair cost is not to be charged:
 - Deletes the tool record from the Lost, Found, and Damaged Tools (LFDTOOLS) table.
 - If the tool's repair cost is to be charged:
 - Updates the Lost, Found, and Damaged Tools (LFDTOOLS) table with the appropriate cost and status data.
 - For Scrapped tools the Cost is updated to the Tools Replacement Cost otherwise is it set to the repair cost.
 - The status is updated to OK, Repaired, or Scrapped based on the status entered on the Unique Tool Repair application.
 - If the Under Warranty field is Yes, then Tool moves to WARRANTY Bin on save.

The following modifications were made to MAXCUST.DLL:

- "CumulativeToolRepairCost.cpp" was created to:
 - Loop through the TOOLREPR table and sum up the repair cost for a specific tool number and populates the Cumulative cost on the Tool Repair screen.